theben

Manual
Split Unit Gateway AC IR1 KNX
Version 1.0

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Content

1 General

This manual provides detailed technical information concerning the Split Unit Gateway AC IR1 KNX.

The Split Unit Gateway allows users to integrate the split unit in a KNX system for convenient, energy efficient control.

1.1 Using the product manual

This manual provides detailed technical information on the function, installation and programming of the Split Unit Gateway. Explanations on how to use it are accompanied by examples.

This manual is divided into the following chapters:
Chapter 1 → General
Chapter 2 → Device technology
Chapter 3 → Commissioning
Chapter 4 → Appendix

1.2 Overview of product and functions

The Split Unit Gateway forms the interface between the KNX system and climate control equipment from a wide range of manufacturers, also referred to as split units. The device converts KNX telegrams to infrared commands and sends them to the split unit.

The Split Unit Gateway is installed near the split unit and the transmitter of the supplied cable is bonded to the receiver of the unit itself. Thereafter, the climate control equipment no longer receives commands from a remote control but instead can be operated via any KNX sensors or via a visual display.

The split unit's functions can therefore be operated via KNX using any operating element. The available functions are as follows:

- On/Off
- Specify setpoint temperature including parametrizable setpoint temperature limits
- Set operating mode (Automatic, Heating, Cooling, Ventilation, Drying)
- Fan speed control
- Horizontal and vertical swing
- Activate Silent Mode

In addition, the following functions can be parametrized via KNX:

- Forced operation
- Window contact
- Presence
- Scene
- Boost function

2 Device technology

The Split Unit Gateway converts KNX commands to infrared commands which are used to manage climate control equipment (split units).

The device is installed near the split unit in a flush-mounted or wall-mounted box. The transmission diode in the supplied cable is bonded to the receiver of the split unit itself. The device is supplied with power via the KNX bus voltage; no additional power supply is required.

2.1 Technical Data

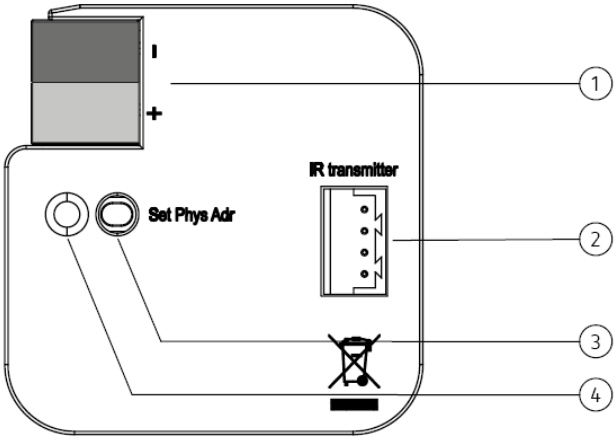
Power supply	Supply voltage	Via KNX bus (21...31 V DC)
	Power loss P	Max. 0.4 W
	Current consumption	Max. 12 mA
Connections	KNX	Bus connection terminal, screwless
	IR cable connection socket	Plug-in terminal
	IR cable	Length 2 m
Operating and display elements	Red LED and button	For assignment of the physical address
Protection degree	IP 20 in the installed state	Compliant to EN 60529
Protection class	III	To EN 61140
Isolation category	Overvoltage category	III according to EN 60664-1
	Pollution degree	2 to EN 60664-1
KNX safety extra low voltage	SELV 30 V DC	
Temperature range	Operation	-5 °C...+45 °C
	Storage	-25...+55°C
	Transport	-25...+70 °C
Ambient conditions	Maximum air humidity	95 %, no condensation allowed
	Atmospheric pressure	Atmosphere up to 2,000 m
Design	Dimensions	39 x 40 x 12 mm (H x W x D)
Installation	In a wall box	Flush-mounted or wall-mounted
Mounting position	any	
Weight	0.02 kg	
Housing, color	Plastic, halogen free, gray	
Approvals	KNX to EN 50 090-1, -2	
CE marking	In accordance with the EMC directive and low voltage directive	

Device type	Application	Maximum number of group objects	Maximum number of group addresses	Maximum number of assignments
AC IR1 KNX	AC IR Gateway KNX*	30	255	255

* ... = Current version number of the application. Please refer to the software information on our website for this purpose.

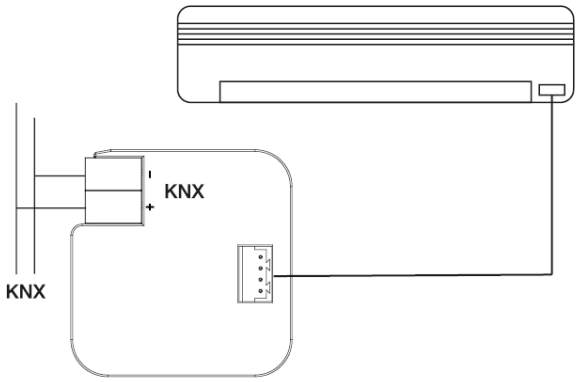
The Engineering Tool Software, ETS, version 5 or later, and the current device application are required for programming. The current application is available for download on the Internet at www.theben.de or in the ETS online catalogue along with the corresponding software information. In addition to the ETS app, the Theben "AC IR Gateway Configuration App", available free of charge in the KNX online shop, is required for commissioning. The device does not support the BCU key function in the ETS. Using a BCU code to inhibit access to all the project devices has no effect on this device. Data can still be read and programmed.

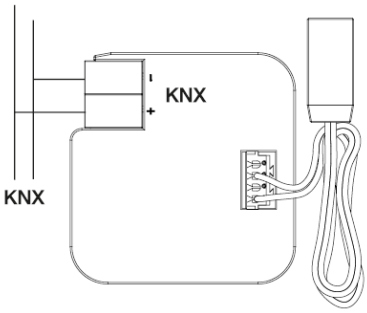
2.2 Connection diagram



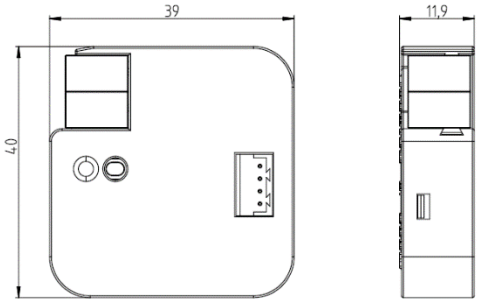
1 Bus connection terminal
2 IR cable connection socket
3 Programming button
4 Programming LED

2.3 Connection





2.4 Dimension drawing



2.5 Mounting and installation

- The device is suitable for installation in a flush-mounted or wall-mounted box.
- The installation position can be selected as required.
- The connection to the bus is implemented using the supplied bus connection terminal. The terminal assignment is located on the housing.
- The device is ready for operation after connection to the bus voltage.
- The device must be accessible for operation, testing, visual inspection, maintenance and repair in compliance with DIN VDE 0100-520.
- Instructions for installing the supplied infrared cable are provided in the installation and operating manual.

Commissioning requirement
In order to commission the device, a PC with ETS, as well as a connection to the KNX bus, e.g. via a KNX interface, is required.
The device is ready for operation after the bus voltage is applied. No auxiliary voltage is required.

⚠ The maximum permissible current of a KNX line must not be exceeded. During planning and installation ensure that the KNX line is correctly dimensioned. The device features a maximum current consumption of 12 mA (Fan-In 1)).

⚠ Mounting and commissioning may only be carried out by electrical specialists. The applicable standards, directives, regulations and specifications for the country in question must be observed when planning and setting up electrical installations and security systems for intrusion and fire detection.

⚠ Protect the device from damp, dirt and damage during transport, storage and operation.

⚠ Only operate the device within the specified technical data!

⚠ The IR cable must be installed at least 6 mm away from 230 V power sources.

⚠ The IR cable must not be kinked or strained.
Please note that the ETS app Theben "AC IR Gateway Configuration App" must also be installed in addition to the product database.knxprod. This is available for download in the KNX Shop (https://my.knx.org/).

Physical address allocation
The assignment and programming of the physical address are carried out in ETS.
The device is supplied with the physical address 15.15.255.
The device features a Programming button for assignment of the physical address. The red Programming LED ● lights up after the button has been pressed. It goes off as soon as ETS has assigned the physical address or the Programming button is pressed again.

Download response
Because of the complexity of the device, the progress bar for the download may take up to 90 seconds to appear depending on the PC/interface used.
In certain cases the device may be inaccessible for up to 10 seconds after a download.

Cleaning
The voltage supply to the device must be switched off before cleaning. If devices become dirty, they can be cleaned using a dry cloth or a cloth dampened with a soapy solution. Never use corrosive agents or solutions.

Maintenance
The device is maintenance-free. In the event of damage (e.g. during transport and/or storage), do not carry out any repairs.

3 Commissioning

3.1 Overview

The AC IR Gateway KNX application is available for the Split Unit Gateway.
Programming requires ETS.
In addition to the ETS application you will require the app Theben "AC IR Gateway Configuration App" for commissioning; this can be obtained free from the KNX Online Shop.
The Split Unit Gateway forms the interface between the KNX system and climate control equipment from a wide range of manufacturers, also referred to as split units. The device converts KNX telegrams to infrared commands and sends them to the split unit. The split unit can therefore be operated via KNX using any operating element.

The following functions can be sent direct to the split unit:

- On/Off
  Switches the split unit on or off. You can also parametrize a switching off delay.
- Specify setpoint temperature including parametrizable setpoint temperature limits.
  The setpoint is sent to the split unit. It is then regulated by the split unit itself. The setpoint temperature can be sent direct (2 byte value) and/or regulated up/down by 1 bit.
- Set operating mode (Automatic, Heating, Cooling, Ventilation, Drying).
  These are the standard operating modes for most split units.
- Fan speed control
  Fan speeds can be controlled by a 1-byte value (with different codes) or regulated up/down by 1 bit.
- Horizontal and vertical swing
  Slat movement can be activated/deactivated on many split units.
- Activate Silent Mode
  Lots of new split units support this function. Activating this function reduces the output of the split unit's external unit. This reduces noise, e.g. at night.

The split unit's behavior can also be parametrized for a variety of events:

- Forced operation
  Forced operation has the highest priority. When Forced operation is active, no other commands are executed.
- Window contact
  When Window contact is activated, the split unit switches off after a (optional) delay.
- Presence
  Presence = 0 or 1 behaviour can be parametrized.
- Scene

Different split units sometimes have a different range of functions.

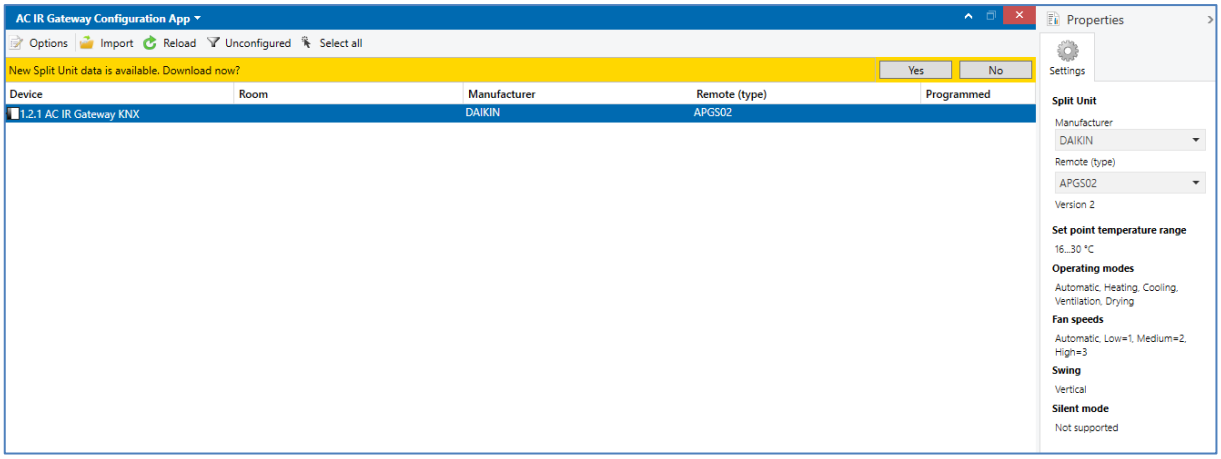
- Not all functions are available on every split unit. In other words, when parametrizing a unit using ETS, you need to check whether it actually supports a particular function. Certain functions that are available in the ETS application (e.g. Silent Mode) may not be supported by the split unit. This in turn means that a group telegram to this object will have no effect. An overview of which functions the split unit supports is displayed in the "AC IR Gateway Configuration App" under Properties.
- Not all split units have exactly 3 fan speeds. If a split unit has more than 3 fan speeds, only 3 speeds are mapped to Low/Med/High in the speeds available in ETS.
  For example: if a split unit has 5 fan speeds, speeds 1/3/5 are mapped to Low//Med/High.

- During parametrization you need to select the split unit manufacturer and the remote control type in ETS before performing the ETS download. To do this you will need the ETS app Theben "AC IR Gateway Configuration App" which is available free from the KNX Online Shop. The app also displays the range of functions on the split unit and, if applicable, which ones are mapped.
- Communication with the split unit is unidirectional. This means that the Split Unit Gateway sends commands to the split unit but receives no status feedback from it. So if the split unit is being operated in parallel with a remote control, the (status) state of the gateway may differ from the actual state of the split unit. The same applies if the split unit is not ready to receive. If applicable, you first need to send a command via KNX to re-synchronize the status values.

The device is a flush-mounted device for installation in a flush-mounted box. It connects to the KNX bus via bus connection terminals. The device does not require auxiliary voltage. Physical address assignment and parametrization are carried out with the ETS Engineering Tool Software.

3.2 AC IR Gateway Configuration App

To set the required split unit or remote control, the Theben "AC IR Gateway Configuration App" must be used. By selecting the desired gateway in the list, the manufacturer and the remote control of the used split unit can be set in the "Properties" window.
The supported functions of the respective split unit device are also displayed here. By programming the app program into the AC IR gateway, the manufacturer/remote control data set in the app are programmed into the unit.



3.3 Parameters

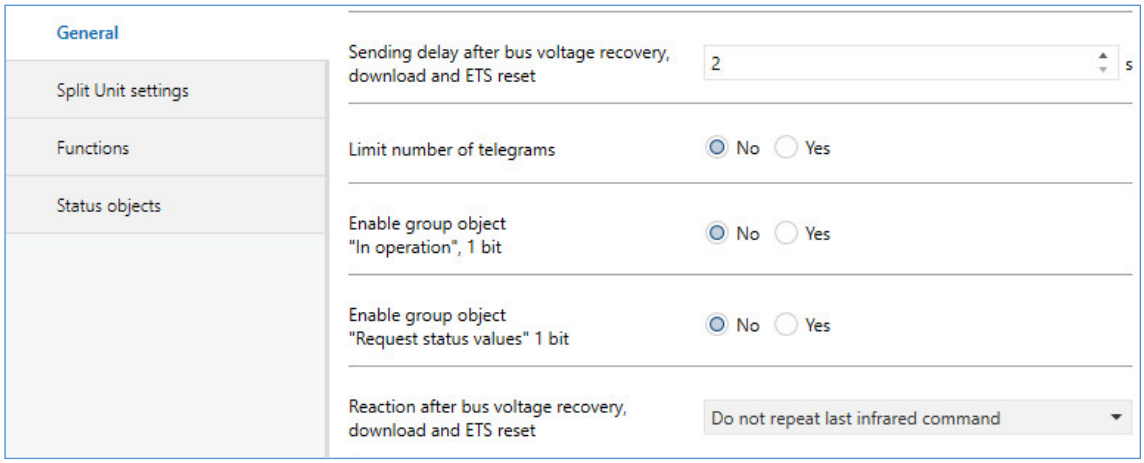
The following chapters describe the device parameters using the parameter windows. Parameter windows are structured dynamically so that further parameters are enabled depending on the parametrization and the function.

The default values of the parameters are underlined, e.g.

Options	**yes**
	no

Parameter window *General*

Set top-level parameters:



Sending delay after bus voltage recovery, download and ETS reset
Options: 2...255 s

During the sending and switching delay, telegrams are only received. However, the telegrams are not processed, and no commands are sent on the bus or to the split unit.
After the sending and switching delay time, telegrams are sent on the bus and the state of the split unit is set according to the parametrization or group object values.
An initialization time of about two seconds is included in the delay time. The initialization time is the time that the processor requires before it is ready to function.

How does the device react on bus voltage recovery?
After bus voltage recovery, the device always waits for the sending and switching delay time to expire before sending telegrams on the bus.

Limit number of telegrams
Options: no
yes

This parameter limits the device-generated bus load. This limit relates to all telegrams sent by the device.

yes:
Dependent parameters:
Maximum number of sent telegrams
Options: 1...20...255
In period
Options: 50 ms/100 ms...1 s...30 s/1 min

This parameter defines the number of telegrams sent by the device within a certain period of time. The telegrams are sent as quickly as possible at the start of a period.

The device counts the number of telegrams sent within the parametrized period. As soon as the maximum number of sent telegrams is reached, no further telegrams are sent on the KNX until the end of the period. A new period commences at the end of the previous period. The telegram counter is reset to zero and sending of telegrams is allowed again. The current group object value at the time of sending is always sent. The first period (break time) is not precisely predefined. It can be anywhere between zero seconds and the parametrized time. The subsequent sending times correspond with the parametrized time.

Example
Maximum number of sent telegrams = 5, period = 5 s. 20 telegrams are ready to send. The device immediately sends 5 telegrams. The next 5 telegrams are sent after a maximum of 5 seconds. From this point, a further 5 telegrams are sent via KNX every 5 seconds.

Enable group object "In operation", 1 bit
Options: no
yes

ja: Enables the 1-bit group object *In operation*.

Dependent parameter:
Sending
Options: value 0
value 1

Sending cycle time
Options: 1...60...65.535 s

The time interval at which the In operation group object cyclically sends a telegram is set here.

After bus voltage recovery, the group object sends its value after the set sending and switching delay time.

Enable group object
"Request status values" 1 bit
Options: no
yes

All status messages can be requested via this group object, provided they have been parametrized with the option *After a change or request*.

yes: Enables the 1-bit group object *Request status values*.
Dependent parameter:
Request with object value
Options: 0
1
0 or 1

0: Sending status messages is requested with the value 0.
1: Sending status messages is requested with the value 1.
0 or 1: Sending status messages is requested with the values 0 or 1.

Reaction after bus voltage recovery,
download and ETS reset
Options: Do not repeat last infrared command
Repeat last infrared command
User-defined

Do not repeat last infrared command: The last command sent before bus voltage failure is not resent to the split unit. If the split unit was operated with a remote control during the bus voltage failure, it is possible (until the next command via KNX) that the status of the split unit will not match the KNX status.

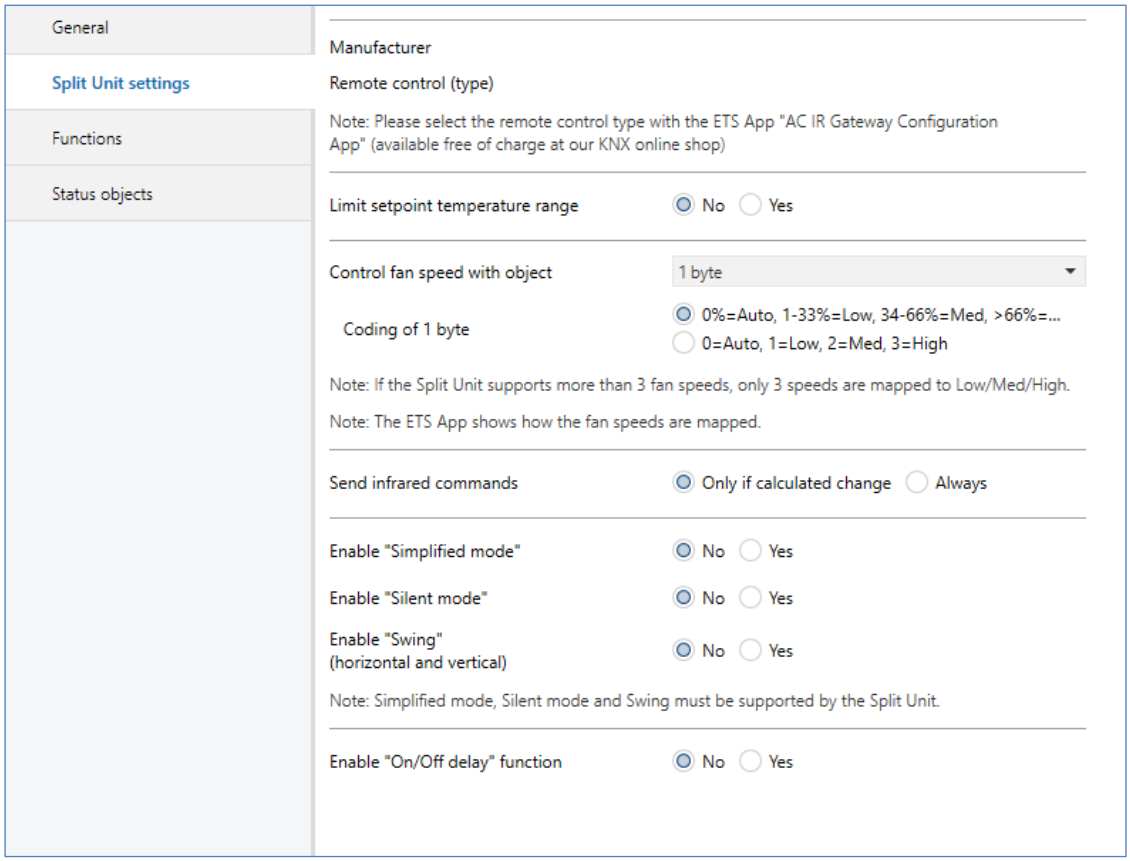
Repeat last infrared command: The last command sent before bus voltage failure is resent to the split unit. This ensures that the split unit is restored to the required state in the event that the unit was operated with a remote control during bus voltage failure.

User-defined: The reaction can be individually parametrized for each function.
(On/Off, Setpoint temperature, Operation mode, Fan speed, Swing, Silent Mode).

Additional parameters will appear accordingly.

Parameter window *Split Unit Settings*

This window is used to set specific parameters for the split unit:



Manufacturer
Options: *Manufacturer*

Remote control (type)
Options: *Remote control model*

These parameters indicate the manufacturer of the split unit and the remote control model.

Before ETS download, the split unit manufacturer and remote control model must be selected using the ETS app Theben "AC IR Gateway Configuration App" which is available free from the KNX Online Shop. The app also displays the range of functions on the split unit and, if applicable, which ones are mapped.

Limit Setpoint temperature range
Options: no
yes

yes: Enables the 1-bit group object *Deactivate setpoint temperature limit*.

ⓘ If you activate Setpoint temperature limit while the current setpoint temperature is outside the setpoint temperature range, the setpoint temperature will be set to the upper or lower limit of the range.

The setpoint temperature limit is activated after the download.

However, activating the priority (Forced operation) takes the setpoint temperature limit into account.

Dependent parameters:
Max. heating setpoint temperature
Options: 16...23...32 °C

Min. cooling setpoint temperature
Options: 16...18...32 °C

This parameter sets limits for heating and cooling. If a temperature above the *Max. heating setpoint temperature* or below the *Min. cooling setpoint temperature* is sent to the Split Unit Gateway, the highest/lowest permissible value respectively is sent to the unit. Status values are updated accordingly.

You need to check whether the split unit supports the required temperature range. You can read this in the ETS app or refer to the manufacturer documentation for the split unit.

Control fan speed with object
Options: 1 byte
1 bit up/down
1 bit up/down and 1 byte

Depending on the option you select, this enables the the by 1 byte *Fan speed* group object and/or the 1 bit *Fan up/down* group object.

Dependent parameter:

Coding of 1 byte
Options : 0 % = Auto, 1-33 % = Low, 34-66 % = Med, > 66 % = High
0 = Auto, 1 = Low, 2 = Med, 3 = High

The Split Unit Gateway receives the fan speed from a KNX operating device via this object and sends it to the split unit.
If the split unit supports more than 3 fan speeds, only 3 speeds are mapped to Low/Med/High.

If the split unit supports 5 fan speeds, speed 1 is mapped to Low, speed 3 to Med and speed 5 to High, in which case speeds 2 and 4 are not used.

Send infrared commands
Options: Only if calculated change
Always

Only if calculated change: Commands are only sent to the split unit if a change occurs via KNX.
Always: If the split unit is being operated in parallel with a remote control, the status of the gateway may differ from the status of the unit. To ensure that the split unit adopts the right status with every KNX command, select the Always option.

However, this means that the split unit may emit more acknowledgment tones.

Enable "Simplified Mode"
Options: no
yes

yes: Enables the 1-bit group object *Simplified Mode*.

Dependent parameter:
(0 = cooling, 1 = heating)

Simplified Mode enables you to switch a unit's operating mode between heating and cooling via a 1 bit object. This makes sense if the other operating modes are not in use and the unit is simply switched with a pushbutton for example. It is also possible to select the operating mode with the 1 byte object *Operation mode*.
The value of the 1 bit status object Status *Operating mode* is updated.

Enable "Silent Mode"
Options: no
yes

yes: Enables the 1-bit group object *Silent Mode*.

Not all split units support *Silent Mode*. Where they do, it can be used to set the split unit to a low-noise operating mode, which can be useful at night for example.
Information on precisely how the split unit reacts in this mode is provided in the product manual for the unit.

Enable "Swing"
(horizontal and vertical)
Options: no
yes

yes: Enables the 1-bit group objects *Horizontal Swing* and *Vertical Swing*.

Not all split units support swing. Where they do, it can be used to start and stop horizontal and/or vertical swing.

ⓘ Some split unit manufacturers use the terms "horizontal" and "vertical" differently. Some are referring to the airflow direction setting, and others to the slat position. The group objects "*Horizontal swing*" and "*Vertical swing*" can be used for either of these meanings (i.e. however it is worded in the project).

Enable "On/Off delay" function
Options: no
yes

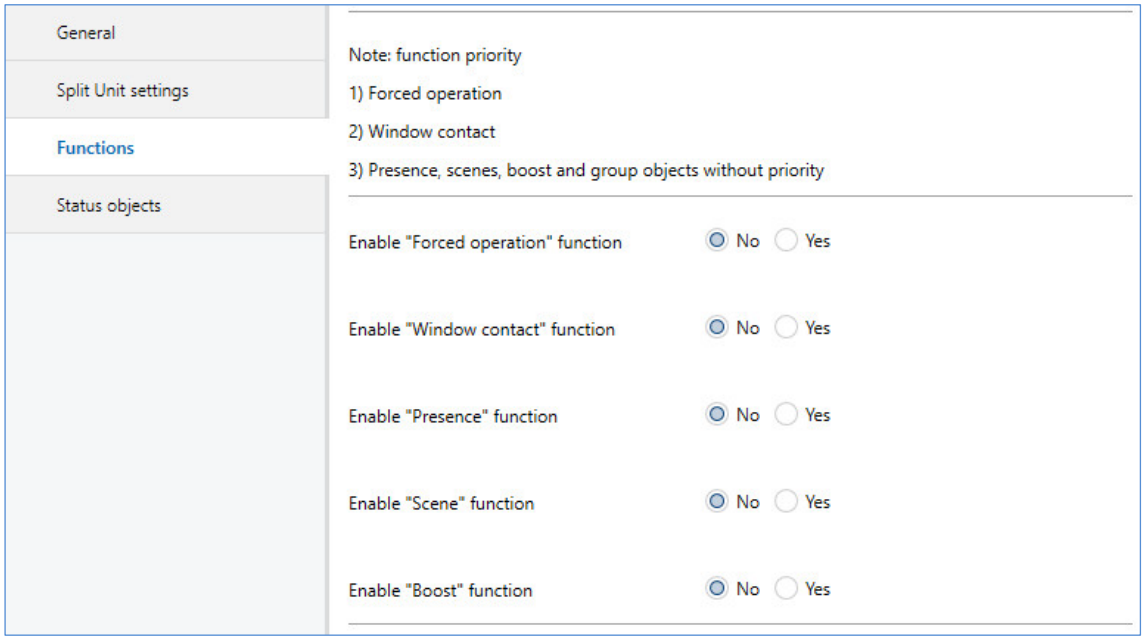
yes: Enables the 1-bit group object *Deactivate On/Off delay*.

Dependent parameter:
On/Off delay
Options: 1...10...255 min

Sending a telegram with the value 0 to the On/Off object delays switching off the split unit (i.e. sending the infrared command) by the parametrized time.

The switching off delay is activated after the download.

Parameter window *Functions*



Function priorities are as follows:

1) Forced operation
2) Window contact
3) Presence, scenes, boost and group objects without priority

If several priorities are activated at once, the highest priority is executed.
The lower priorities are updated in the background and only executed once the higher priority is deactivated.
While a priority is active, Presence and Scene are still evaluated, but Boost and other non-priority group objects are discarded.

Timers (switching off delay, monitoring time) start immediately.

Enable "Forced operation" function
Options: no
yes

yes: Enables the 1-bit group object *Forced operation*.

This enables the corresponding parameter window.

Enable "Window contact" function
Options: no
yes

yes: Enables the 1-bit group object *Window contact*.

This enables the corresponding parameter window.

Enable "Presence" function
Options: no
yes

yes: Enables the 1-bit group object *Presence*.

This enables the corresponding parameter window.

Enable "Scene" function
Options: no
yes

yes: Enables the 1-bit group object *Scene*.

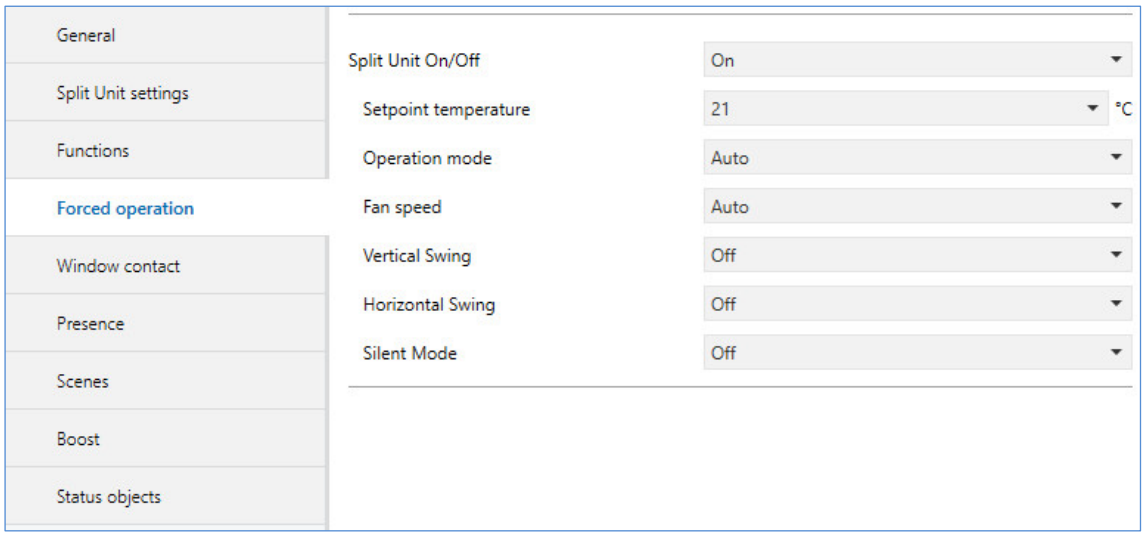
This enables the corresponding parameter window.

Enable "Boost" function
Options: no
yes

yes: Enables the 1-bit group object *Boost*.

This enables the corresponding parameter window.

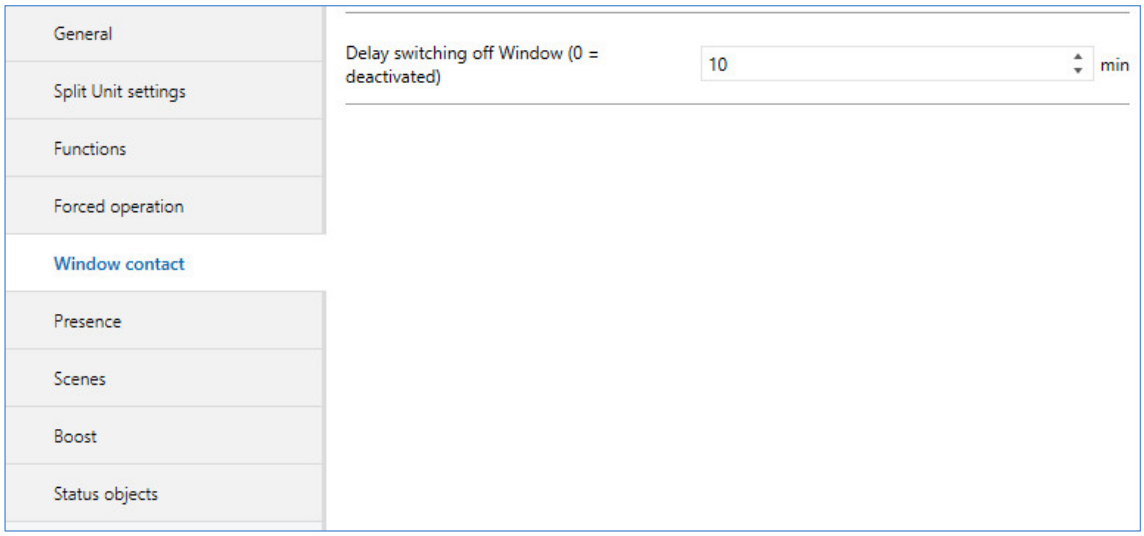
Parameter window *Forced operation*



Activating the *Forced operation* function (sending a telegram with the value 1 on the object) sets the split unit to its parametrized state.

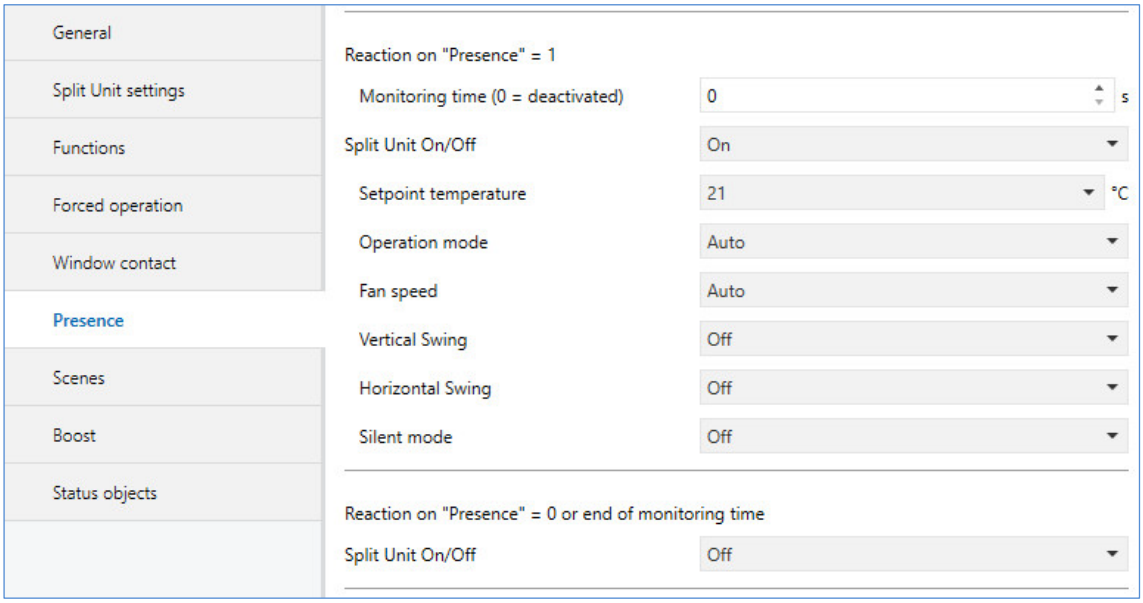
This also disables operation of the split unit with lower-priority objects.
However, activating the *Forced operation* function takes the setpoint temperature limit into account.

Parameter window *Window contact*



Activating the *Window contact* function (sending a telegram with the value 1 on the object) switches the split unit off.
You can also parametrize a switching off delay.

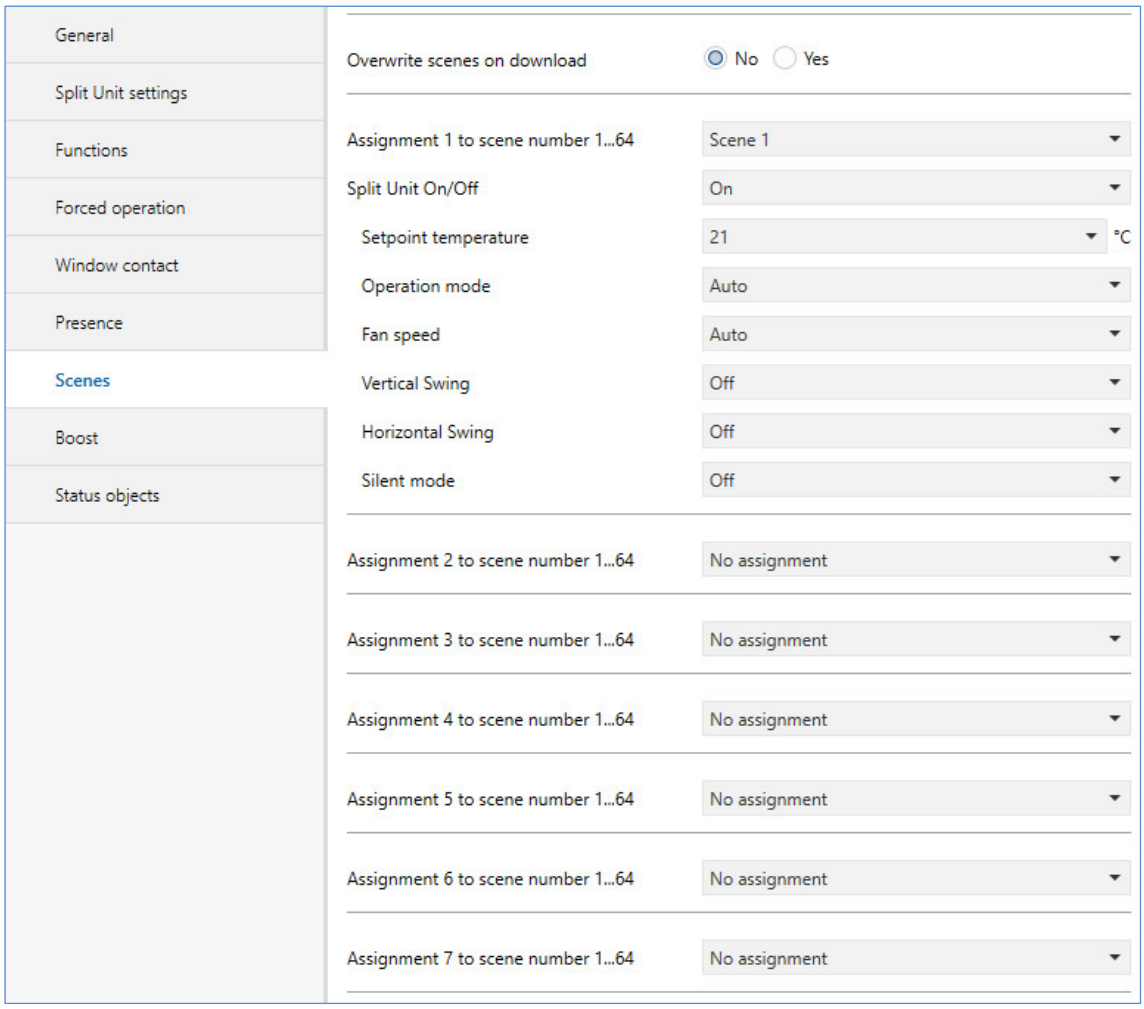
Parameter window *Presence*



Activating the *Presence* function (sending a telegram with the value 1 on the object) sets the split unit to its parametrized state for Presence = 1.

After the (optional) parametrizable monitoring time or on deactivating the *Presence* function (sending a telegram with the value 0 on the object) the split unit is set to its parametrized state for Presence = 0.

Parameter window *Scenes*



There are 7 possible scene assignments.

Overwrite scenes on download

Options: no
yes

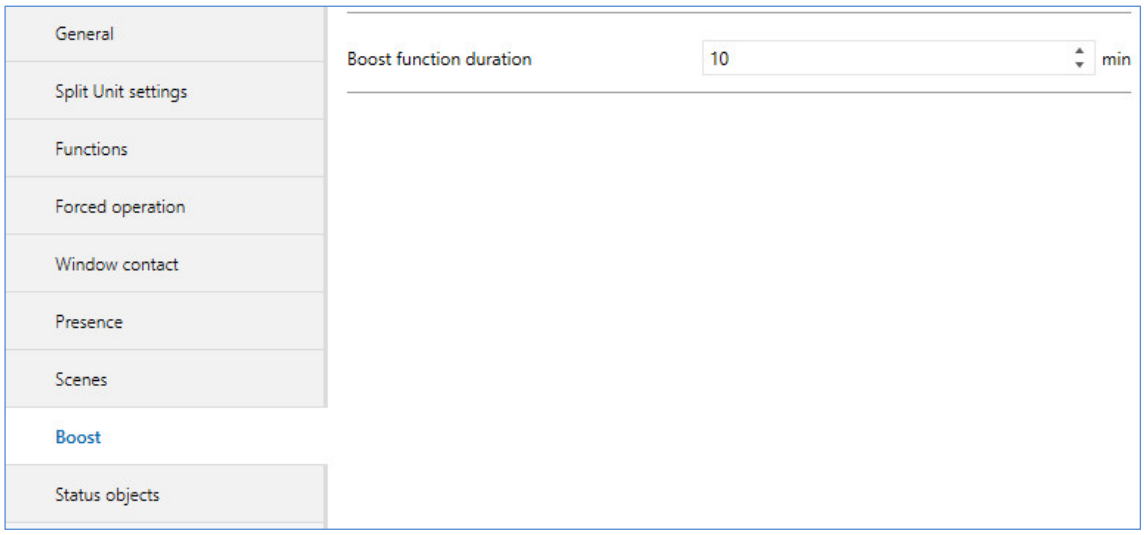
No: After a download, scene values are not overwritten by the assignments parametrized in ETS.
Yes: After a download, scene values are overwritten by the assignments parametrized in ETS.

Assignment *n* to scene number 1...64

Options: No assignment
Scene 1
...
Scene 64

This parameter assigns the output of a scene number (1...64). When the device receives a telegram with this scene number via the *8-bit scene* group object, it recalls the corresponding scene.

Parameter window *Boost*

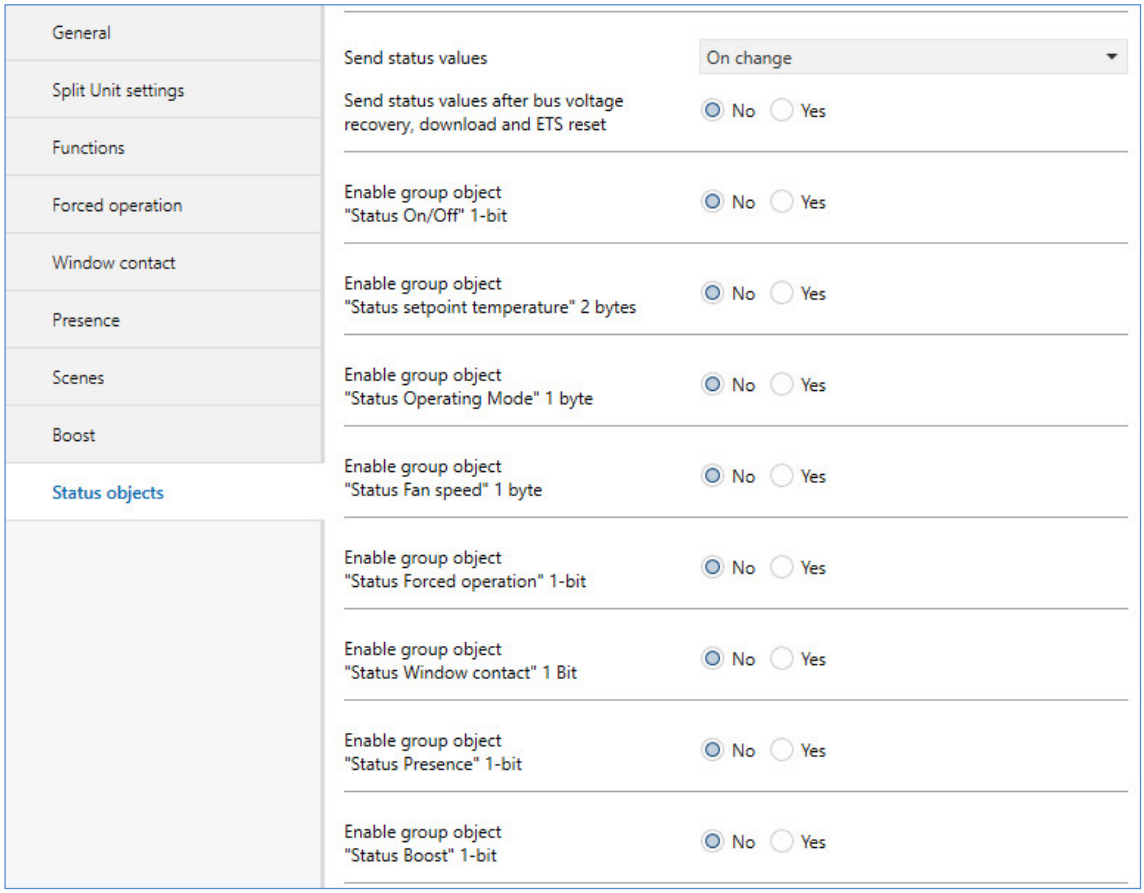


Boost function duration
Options: 1...10...255 min

The Boost function allows you to bring a room to the required setpoint temperature very quickly. Activating the function via the "Boost" object switches the split unit to the highest fan speed and activates swing.

After the parametrized duration, the split unit returns to its original state.

Parameter windows *Status objects*



Send status values

Options: No (update only)
On change
After request
After a change or request

No (update only): The status is updated but not sent.
On change: The status is sent when a change occurs.
After request: The status is sent when a request occurs.
After a change or request: The status is sent when a change or request occurs.

Send status values after bus voltage recovery, download and ETS reset

Options: no
yes

yes: Sends all status values to the bus after a bus voltage recovery, download or ETS reset regardless of the parametrization of *Send status values*. Sending delays parametrized in the General parameter window are taken into account.

ⓘ Status objects can only be enabled if the corresponding function is enabled on the *Functions* page.

3.4 Group objects

Summary of group objects

No	Function	Name	Data Point Type (DPT)	Length	Flags				
					C	L	W	T	R
1	In operation	General	1.002	1 bit	x	x		x	
2	Request Status values	General	1.017	1 bit	x		x		
3	Fan speed	Split Unit	5.001 5.010	1 byte	x		x		
4	Status Fan speed	Split Unit	5.001 5.010	1 byte	x	x		x	
5	Fan up/down	Split Unit	1.007	1 bit	x		x		
6	Operation mode	Split Unit	20.105	1 byte	x		x		
7	Status Operating mode	Split Unit	20.105	1 byte	x	x		x	
8	Simplified Mode	Split Unit	1.100	1 bit	x		x		
9	Silent Mode	Split Unit	1.002	1 bit	x		x		
10	Status Silent Mode	Split Unit	1.002	1 bit	x	x		x	
11	Scene	Function	18.001	1 byte	x		x		
12	On/Off	Split Unit	1.001	1 bit	x		x		
13	Status On/Off	Split Unit	1.001	1 bit	x	x		x	
14	Deactivate On/ Off delay	Split Unit	1.003	1 bit	x		x		
15	Forced operation	Function	1.003	1 bit	x		x		
16	Status Forced operation	Function	1.003	1 bit	x	x		x	
17	Window contact	Function	1.019	1 bit	x		x		
18	Status Window contact	Function	1.019	1 bit	x	x		x	
19	Presence	Function	1.018	1 bit	x		x		
20	Status Presence	Function	1.018	1 bit	x	x		x	
21	Setpoint temperature	Split Unit	9.001	2 byte	x		x		
22	Status Setpoint temperature	Split Unit	9.001	2 byte	x	x		x	
23	Setpoint temperature up/down	Split Unit	1.007	1 bit	x		x		
24	Deactivate Setpoint temperature limit	Split Unit	1.003	1 bit	x		x		
25	Vertical Swing	Split Unit	1.001	1 bit	x		x		
26	Status Vertical swing	Split Unit	1.001	1 bit	x	x		x	
27	Horizontal Swing	Split Unit	1.001	1 bit	x		x		
28	Status Horizontal swing	Split Unit	1.001	1 bit	x	x		x	
29	Boost	Function	1.001	1 bit	x		x		
30	Status Boost	Function	1.001	1 bit	x	x		x	

Group objects

No.	Function	Group object name	Data type	Flags
1	**In operation**	**General**	**1 bit** **DPT 1.002**	**C, R, T**
	Dependent on parameter	Enable group object "In operation", 1 bit		
In order to regularly monitor the presence of the device on the KNX bus, an In operation monitoring telegram can be sent cyclically on the bus. As long as the group object is activated, it sends an In operation telegram. Telegram value 1 = system in operation with option *Send value 1 cyclically* 0 = system in operation with option *Send value 0 cyclically*				
2	**Request Status values**	**General**	**1 bit** **DPT 1.017**	**C, W**
	Dependent on parameter	Enable group object "Request status values" 1 bit		
If this group object receives a telegram with the value x (x = 0/1/0 or 1), all enabled *Status* group objects are sent on the bus, provided they have not been parametrized with the option *After request* or *After a change or request*. Option x = 1 produces the following function: Telegram value 1 = All enabled status messages are sent 0 = No status values sent, no function Option x = 0 produces the following function: Telegram value 1 = No status values sent, no function 0 = All enabled status messages are sent Option x = 0 or 1 produces the following function: Telegram value 0 or 1 = All enabled status messages are sent				
3	**Fan speed**	**Split unit**	**1 byte** **DPT 5.001**	**C, W**
	Dependent on parameter	Control fan speed with object		
The Split Unit Gateway receives the fan speed from a KNX operating device via this object and sends it to the split unit. You can select the coding via the *Coding of 1 byte* parameter. 0%=Auto; 1-33%=Low, 34-66%=Medium, >66%=High				
3	**Fan speed**	**Split unit**	**1 byte** **DPT 5.010**	**C, W**
	Dependent on parameter	Control fan speed with object		
The Split Unit Gateway receives the fan speed from a KNX operating device via this object and sends it to the split unit. You can select the coding via the *Coding of 1 byte* parameter. 0=Auto, 1=Low, 2=Med, 3=High				

No.	Function	Group object name	Data type	Flags
4	**Status Fan speed**	**Split unit**	**1 byte** **DPT 5.001**	**C, R, T**
	Dependent on parameter	Enable group object "Status Fan speed" 1 byte		
The fan speed status is always shown by the 1 byte object, even if Control fan speed with object parameter is set to *1 bit up/down* on the *Split Unit settings* page. The coding of the status object is dependent on the setting in the *Coding of 1 byte* parameter. 0%=Auto; 33%=Low, 66%=Medium, 100%=High				
4	**Status Fan speed**	**Split unit**	**1 byte** **DPT 5.010**	**C, R, T**
	Dependent on parameter	Enable group object "Status Fan speed" 1 byte		
The fan speed status is always shown by the 1 byte object, even if Control fan speed with object parameter is set to *1 bit up/down* on the *Split Unit settings* page. The coding of the status object is dependent on the setting in the *Coding of 1 byte* parameter. 0=Auto, 1=Low, 2=Med, 3=High				
5	**Fan up/down**	**Split unit**	**1 bit** **DPT 1.007**	**C, W**
	Dependent on parameter	Control fan speed with object		
When a telegram is received on this object, the fan speed reduces or increases by one speed. Value 1: Increases fan speed Value 0: Reduces fan speed Available fan speeds are: Automatic, Low, Medium, High If the fan reaches High, a further telegram with the value 1 has no effect. If the fan is set to Automatic, a further telegram with the value 0 has no effect.				
6	**Operation mode**	**Split unit**	**1 byte** **DPT 20.105**	**C, W**
	Dependent on parameter	Always visible		
This object sets the operating mode for the split unit. The operating modes set on receipt of a corresponding value are as follows: 0=Auto 1=Heating 3=Cooling 9=Ventilation 14=Drying All other values are discarded.				

No.	Function	Group object name	Data type	Flags
7	**Status Operating mode**	**Split unit**	**1 byte** **DPT 20.105**	**C, R, T**
	Dependent on parameter	Always visible		
This object indicates the operating mode status for the split unit. 0=Auto 1=Heating 3=Cooling 9=Ventilation 14=Drying				
8	**Simplified Mode**	**Split unit**	**1 bit** **DPT 1.100**	**C, W**
	Dependent on parameter	Enable "Simplified Mode"		
This object switches between heating and cooling for basic applications. 1=Heating 0=Cooling It is possible to operate the unit in parallel using object 6. The operating mode status (object 7) is updated.				
9	**Silent Mode**	**Split unit**	**1 bit** **DPT 1.002**	**C, W**
	Dependent on parameter	Enable "Silent Mode"		
This object activates Silent Mode, provided the split unit supports it. 1=Activate Silent Mode 0=Deactivate Silent Mode				
10	**Status Silent Mode**	**Split unit**	**1 bit** **DPT 1.002**	**C, R, T**
	Dependent on parameter	Enable "Silent Mode" and Enable group object "Status Silent Mode" 1-bit		
This object indicates the status of Silent Mode. 1=Silent Mode activated 0=Silent Mode deactivated				
11	**Scene**	**General**	**1 byte** **DPT 18.001**	**C, W**
	Dependent on parameter	Enable "Scene" function		
Using this 8-bit group object, a Scene telegram can be sent using a coded telegram. The telegram contains the number of the scene concerned as well as the information on whether the scene is to be recalled or stored. The coding for this object is provided in Appendix.				

No.	Function	Group object name	Data type	Flags
12	**On/Off**	**Split unit**	**1 bit** **DPT 1.001**	**C, W**
	Dependent on parameter	Always visible		
This object switches the split unit on and off. 1 = split unit switches on 0 = split unit switches off If a switching off delay is parametrized and activated, the split unit only switches off after the specified delay.				
13	**Status On/Off**	**Split unit**	**1 bit** **DPT 1.001**	**C, R, T**
	Dependent on parameter	Enable group object "Status On/Off" 1-bit		
This object indicates the status of the *On/Off* function. 1 = split unit is on 0 = split unit is off If a switching off delay has been specified, the unit is not switched off until this has elapsed.				
14	**Deactivate On/Off delay**	**Split unit**	**1 bit** **DPT 1.003**	**C, W**
	Dependent on parameter	Enable "On/Off delay" function		
The *On/Off delay* function delays switching off the split unit (i.e. sending the infrared command) by the parametrized time. Receipt of a telegram with the value 1 on the "Deactivate On/Off delay" object deactivates the switching off delay. Telegram value 1 = Deactivates switching off delay 0 = Activates switching off delay				
15	**Forced operation**	**Function**	**1 bit** **DPT 1.003**	**C, W**
	Dependent on parameter	Enable "Forced operation" function		
Activating the *Forced operation* function (sending a telegram with the value 1 on the object) sets the split unit to its parametrized state for forced operation. When the *Forced operation* function is deactivated (telegram with the value 0 on the object), the lower-priority function (Window contact) is evaluated, provided it is enabled. If the *Window contact* function is not enabled or activated, the last non-priority command received via the KNX bus is executed.				

No.	Function	Group object name	Data type	Flags
16	**Status Forced operation**	**Function**	**1 bit** **DPT 1.003**	**C, R, T**
	Dependent on parameters	Enable "Forced operation" function and Enable group object "Status Forced operation" 1-bit		
This object indicates the status of Forced operation. 1 = Forced operation is activated 0 = Forced operation is deactivated				
17	**Window contact**	**Function**	**1 bit** **DPT 1.019**	**C, W**
	Dependent on parameter	Enable "Window contact" function		
When a telegram with the value 1 is received on this object, the split unit switches off. No switching off delay can be parametrized. On receipt of a telegram with the value 0, the unit is restored to the state it was in before being switched off.				
18	**Status Window contact**	**Function**	**1 bit** **DPT 1.019**	**C, R, T**
	Dependent on parameters	Enable "Window contact" function and Enable group object "Status Window contact" 1 bit		
This object indicates the status of the *Window contact* function. 1 = *Window contact* function is activated 0 = *Window contact* function is deactivated				
19	**Presence**	**Function**	**1 bit** **DPT 1.018**	**C, W**
	Dependent on parameter	Enable "Presence" function		
Activating the *Presence* function (sending a telegram with the value 1 on the object) sets the split unit to its parametrized state for Presence = 1. After the (optional) parametrizable monitoring time or on deactivating the *Presence* function (sending a telegram with the value 0 on the object) the split unit is set to its parametrized state for Presence = 0.				
20	**Status Presence**	**Function**	**1 bit** **DPT 1.018**	**C, R, T**
	Dependent on parameters	Enable "Presence" function and Enable group object "Status Presence" 1 bit		
The value of this group object indicates the state of the Presence object.				

No.	Function	Group object name	Data type	Flags
21	**Setpoint temperature**	**Split unit**	**2 byte** **DPT 9.001**	**C, W**
	Dependent on parameters	Always visible		
The Split Unit Gateway receives the setpoint value via this group object. If when the Setpoint temperature limit is parametrized and activated the gateway receives setpoint values outside the parametrized range, it sets the setpoint temperature to the upper or lower limit of the range. If you activate Setpoint temperature limit while the current setpoint temperature is outside the setpoint temperature range, the setpoint temperature will be set to the upper or lower limit of the range.				
22	**Status Setpoint temperature**	**Split unit**	**2 byte** **DPT 9.001**	**C, R, T**
	Dependent on parameter	Enable group object "Status setpoint temperature" 2 bytes		
This object indicates the current setpoint value.				
23	**Setpoint temperature up/down**	**Split unit**	**1 bit** **DPT 1.007**	**C, W**
	Dependent on parameter	Always visible		
This object increases or reduces the setpoint temperature by intervals of 1 kelvin. 1 = Setpoint temperature increases 0 = Setpoint temperature decreases If the temperature reaches the upper or lower setpoint temperature limit, further telegrams have no effect.				
24	**Deactivate Setpoint temperature limit**	**Split unit**	**1 bit** **DPT 1.003**	**C, W**
	Dependent on parameter	Limit Setpoint temperature range		
This object activates/deactivates the setpoint temperature limit. 1 = Setpoint temperature limit deactivated 0 = Setpoint temperature limit activated If you activate Setpoint temperature limit while the current setpoint temperature is outside the setpoint temperature range, the setpoint temperature will be set to the upper or lower limit of the range. The setpoint temperature limit is activated after download. However, activating the Forced operation priority takes the setpoint temperature limit into account.				

No.	Function	Group object name	Data type	Flags
25	**Vertical Swing**	**Split unit**	**1 bit** **DPT 1.001**	**C, W**
	Dependent on parameter	Enable "Swing" See Enable "Swing" (horizontal and vertical), p. 15		

This object starts and stops horizontal and/or vertical swing.

1 = vertical swing starts
0 = vertical swing stops

Note
On certain split units, the slats move to a specific position when swing is stopped.

26	**Status Vertical swing**	**Split unit**	**1 bit** **DPT 1.001**	**C, R, T**
	Dependent on parameters	Enable "Swing" and Enable group object "Status Swing" 1 bit See Enable "Swing" (horizontal and vertical), p. 15		

This object indicates the status of vertical swing.

1 = vertical swing started
0 = vertical swing stopped

27	**Horizontal Swing**	**Split unit**	**1 bit** **DPT 1.001**	**C, W**
	Dependent on parameter	Enable "Swing" See Enable "Swing" (horizontal and vertical), p. 15		

This object starts and stops horizontal swing.

1 = starts horizontal swing
0 = stops horizontal swing

Note
On certain split units, the slats move to a specific position when swing is stopped.

No.	Function	Group object name	Data type	Flags
28	**Status Horizontal swing**	**Split unit**	**1 bit** **DPT 1.003**	**C, R, T**
	Dependent on parameters	Enable "Swing" and Enable group object "Status Swing" 1 bit See Enable "Swing" (horizontal and vertical), p. 15		
This object indicates the status of horizontal swing. 1 = horizontal swing started 0 = horizontal swing stopped				
29	**Boost**	**Function**	**1 bit** **DPT 1.001**	**C, W**
	Dependent on parameter	Enable "Boost" function		
Receipt of a telegram with the value 1 on this object activates the *Boost* function. The split unit switches to the highest fan speed and swing is activated. After the parametrized duration the split unit returns to its original state.				
30	**Status Boost**	**Function**	**1 bit** **DPT 1.001**	**C, R, T**
	Dependent on parameters	Enable "Boost" function and Enable group object "Status Boost" 1 bit		
This object indicates the status of the *Boost* function. 1 = *Boost* function is activated 0 = *Boost* function is deactivated				

3.5 Special operating states

Reaction on bus voltage failure
In the event of a bus voltage failure, the Split Unit Gateway sends no infrared commands.

Reaction on bus voltage recovery

- *Input objects* are initialized at 0.
- *Status objects* are sent according to the "Send status values after bus voltage recovery, download and ETS reset" parameter on the "Status objects" page.
- Sending delays parametrized on the "General" parameter page are taken into account.
- *IR commands to the split unit* are sent according to the "Reaction on bus voltage recovery, download and ETS reset" parameter on the "General" page.
- *Priorities* are not active.
- *Timers* (On/Off delay, window switching off delay, presence monitoring time, boost function duration) are reset and the action set to occur when the timer has finished is executed.

Reaction on ETS download

- *Input objects* are initialized at 0. This excludes the input objects On/Off delay, Temperature limit, Forced operation, Window contact, Presence and Boost. These are initialized according to the operating state before the download.
- *Status objects* are sent according to the "Send status values after bus voltage recovery, download and ETS reset" parameter on the "Status objects" page.
- Sending delays parametrized on the "General" parameter page are taken into account.
- *IR commands to the split unit* are sent according to the "Reaction on bus voltage recovery, download and ETS reset" parameter on the "General" page.
- *Priorities* remain unchanged (for more information, see: chapter "Parameter Window Functions").
- *Timers* (On/Off delay, window switching off delay, presence monitoring time, boost function duration) restart if they were active before the download.

Reaction on ETS reset

- *Input objects* are initialized at 0. Exception: the object "Setpoint temperature" is initialized at 18 °C. The value can differ from this if setpoint temperature limitation is active.
- *Status objects* are sent according to the "Send status values after bus voltage recovery, download and ETS reset" parameter on the "Status objects" page. Sending delays parametrized on the "General" parameter page are taken into account.
- *IR commands to the split unit* are always sent with the initialized values, irrespective of the parameter "Reaction on bus voltage recovery, download and ETS reset".
- *Priorities* are not active.
- *Timers* (On/Off delay, window switching off delay, presence monitoring time, boost function duration) are reset and the action set to occur when the timer has finished is executed.

4 Open source components

5 Contact

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Dispose of the device separately from household at an official collection point.