IntesisBox®
PA-RC-KNX-1i v1.2

User's Manual
Issue Date: 08/2015
r1.2 eng
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Gateway for integration of Panasonic air conditioners into KNX TP-1 (EIB) control systems. Compatible with FS and FSM Series air conditioners commercialized by Panasonic.

Application’s Program Version: 1.2

Order Code: **PA-RC-KNX-1i**
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1. Presentation

PA-RC-KNX-1i allows a complete and natural integration of PANASONIC air conditioners with KNX control systems.

Compatible with FS and FSM Series air conditioners commercialized by Panasonic.

Main features:

- Reduced dimensions, quick installation.
- Multiple objects for control and status (bit, byte, characters...) with KNX standard datapoint types.
- Status objects for every control available.
- Timeout for Open Window and Occupancy. Sleep function also available.
- Control of the AC unit based in the ambient temperature read by the own AC unit, or in the ambient temperature read by any KNX thermostat.
- AC unit can be controlled simultaneously by the wired remote control of the AC unit and by KNX.
- Total Control and Monitoring of the AC unit from KNX, including monitoring of AC unit’s state of internal variables, running hours counter (for filter maintenance control), and error indication and error code.
- Up to 5 scenes can be saved and executed from KNX, fixing the desired combination of Operation Mode, Set Temperature, Fan Speed, Vane Position and Remote Controller Lock in any moment by using a simple switching.
- Four binary inputs for potential-free contacts provide the possibility to integrate many types of external devices. Also configurable from ETS, they can be used for switching, dimming, shutter/blind control, and more.
2. Connection

Connection of the PA-RC-KNX-1i to the AC indoor unit

2.1 **PA-RC-KNX-1i without Panasonic Remote Controller**

The PA-RC-KNX-1i can be connected directly to the A/B bus of the indoor unit (no Panasonic remote controller -RC from now on- also connected in the A/B bus). See connection diagram below.

2.2 **PA-RC-KNX-1i with Panasonic Remote Controller**

If a Panasonic remote controller (RC) is present and connected to the A/B bus, this one have ALWAYS to be set up as Master:

- To check if the RC is in Master or Slave mode, it has a switch on the back. This switch should always be placed in "MASTER" position.

![Figure 2.1 Panasonic RC PCB backside, M/S switch](image)

Disconnect mains power from the AC unit and use a 2 wire cable with a diameter of 0.75mm² to 1.25mm² for the connection of PA-RC-KNX-1i, Panasonic remote controller and its corresponding indoor unit. Screw the suitably peeled cable ends in the corresponding X/Y terminals of each device, as summarized in the Figure 2.2.

Maximum A/B bus length is 200 meter. Cable has no polarity.

**Connection of the PA-RC-KNX-1i to the KNX bus:**

Disconnect power of the KNX bus. Connect the PA-RC-KNX-1i to the KNX TP-1 (EIB) bus using the KNX standard connector (red/grey) of the PA-RC-KNX-1i, respect polarity.

Reconnect power of the KNX bus, and mains power of the AC unit.
Connection diagrams:

PA-RC-KNX-1i without Panasonic RC

![Connection Diagram](image1)

Max. 200 m

PA-RC-KNX-1i with Panasonic RC

![Connection Diagram](image2)

Max. 200 m

Figure 2.2 PA-RC-KNX-1i connection diagrams
3. Configuration and setup

This is a fully compatible KNX device which must be configured and setup using standard KNX tool ETS.

ETS database for this device can be downloaded from:

http://www.intesis.com/down/eib/PA-RC-KNX-1i.zip

Please consult the README.txt file, located inside the downloaded zip file, to find instructions on how to install the database.

⚠️ **Important:** Do not forget to select the correct settings of AC indoor unit being connected to the PA-RC-KNX-1i. This is in "Parameters" of the device in ETS.
4. ETS Parameters

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

![Default parameter configuration](image)

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

![Default communication objects](image)
4.1 **General dialog**

Inside this parameter’s dialog it is possible to activate or change the parameters shown in the Figure 4.1.

The first field shows the URL where to download the database and the user manual for the product.

4.1.1 **Send READs for Control_ objects on bus recovery**

When this parameter is enabled, PA-RC-KNX-1i will send READ telegrams for the group addresses associated on 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.

![Figure 4.3 Parameter detail](image)

- **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 enough to other KNX devices on the bus to start-up before sending the READs.

4.1.2 **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.

![Figure 4.4 Parameter detail](image)

4.1.3 **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**.

![Communication object and parameter detail](image)

**Figure 4.5** Communication object and parameter detail

- **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.

4.1.4 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.

![Communication object and parameter detail](image)

4.1.5 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 PA-RC-KNX-1i.

![Communication object and parameter detail](image)

- 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.
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.

### 4.1.6 Enable use of objects for Filter

This parameter shows/hides Control_ Reset Filter and Status_ Filter Status that lets reset the filter status and also monitor if there is a filter alarm.

- If set to “no” the object will not be shown.
- If set to “yes” the Control_ Reset Filter y Status_ Filter Status objects will appear.

- The Status_ object will show a “0” value when there’s no filter alarm, and a “1” value when the filter is full. Once the filter is cleaned, the alarm can be reset by sending a “1” value to the Control_ Reset Filter object.

### 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.

- If set to “no” the object will not be shown.

- 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.

- 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

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

- Control_Mode [DPT_20.105 - 1byte] - 0-Aut 1-Heat 3-Cool 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 has to be used to indicate if the indoor unit has the heat mode available.

- If set to “no”, the indoor unit doesn’t have the heat mode available.
- If set to “yes”, the indoor unit has the heat mode available.
4.2.2 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_objs concerning mode will only show Auto enabled.
- If set to “yes”, when the indoor unit is set to Auto mode, all the Status_objs 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.

4.2.3 Enable use of Heat / Cool bit-type obj

This parameter shows/hides the Control_ and Status_Mode Cool/Heat communication objects.

- 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.

4.2.4 Enable PID-Compat. Scaling Mode Objects

This parameter shows/hides the Control_Mode Cool & On and Control_Mode Heat & On communication objects.

- 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.
these thermostats, the percentage demand is meant to be applied on a fluid valve of the heating / cooling system.

- PA-RC-KNX-1i 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.
  
  - Lastest 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 objects 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.

4.2.5 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.

- ![10 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.

![Figure 4.7 Parameter detail]

- **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:

```
AUTO ➔ HEAT* ➔ COOL ➔ FAN ➔ DRY
```

- Up / Increase
- Down / Decrease
- * If available

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

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

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

- 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.

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

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

- 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.

### 4.2.8 Enable use of Text object for Mode

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

<table>
<thead>
<tr>
<th>Status when mode is AUTO</th>
<th>AUTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status when mode is HEAT (if available)</td>
<td>HEAT</td>
</tr>
<tr>
<td>Status when mode is COOL</td>
<td>COOL</td>
</tr>
<tr>
<td>Status when mode is FAN</td>
<td>FAN</td>
</tr>
<tr>
<td>Status when mode is DRY</td>
<td>DRY</td>
</tr>
</tbody>
</table>

**Figure 4.8 Parameter detail**

### 4.3 Special Modes Configuration dialog

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 the real state of the indoor unit will NOT be shown in KNX.

⚠️ **Important:** When the predefined time for the Special Mode is finished or a “0” value is sent to stop it, the previous state will be recovered.

⚠️ **Important:** If a value concerning On/Off, Mode, Fan Speed or Setpoint Temperature is received from KNX while any Special Mode is running (“1”), the Special Mode will stop and the previous state will be recovered. The value received will be also applied then.

⚠️ **Important:** If a value concerning On/Off, Mode, Fan Speed or Setpoint Temperature is modified through the remote controller, the Special Mode will stop WITHOUT recovering the previous state. Then the real indoor unit state will be shown in KNX including the new value received through the remote controller.
4.3.1 Enable use of POWER mode

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

- 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.

<table>
<thead>
<tr>
<th>Enable use of POWER mode</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Action time for this mode (minutes) (0 = permanent / unlimited)</td>
<td>2</td>
</tr>
<tr>
<td>&gt; Setpoint delta increase (HEAT) or decrease (COOL) – in Celsius</td>
<td>2°C</td>
</tr>
<tr>
<td>&gt; Fanspeed for this mode</td>
<td>SPEED 3 (if avail)</td>
</tr>
</tbody>
</table>

**Figure 4.10 Parameter detail**

- 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 a Heat, Cool, Auto-Heat or Auto-Cool Mode.

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

- **Setpoint delta increase (HEAT) or decrease (COOL) – in Celsius:**
  Number of degrees Celsius that will increase in Heat Mode, or decrease in Cool Mode, while in Power Mode.

- **Fan Speed for this mode:**
  Fan Speed that will be set in the unit while in Power Mode.
4.3.2 Enable use of ECONOMY mode

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

- 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 a Heat, Cool, Auto-Heat or Auto-Cool Mode.

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

- Setpoint delta increase (HEAT) or decrease (COOL) – in Celsius:
  Number of degrees Celsius that will increase in Heat Mode, or decrease in Cool Mode, while in EconoMode.

- Fan Speed for this mode:
  Fan Speed that will be set in the unit while in EconoMode.

4.3.3 Enable use of ADDITIONAL HEATING mode

This parameter shows/hides the Control_ 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 of time.

- 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 (ºC):**
  Setpoint temperature that will be applied while in Additional Heating Mode.

- **Fan Speed for this mode:**
  Fan Speed that will be set in the unit while in Additional Heating Mode.

### 4.3.4 Enable use of ADDITIONAL COOLING mode

This parameter shows/hides the Control_ 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 of time.

- 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 (ºC):**
  Setpoint temperature that will be applied while in Additional Cooling Mode.

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4.4 Fan Speed Configuration dialog

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

4.4.1 When fan is AUTO Status_ objs report actual operating status (speed1/2/…)

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

- If set to “no”, when the indoor unit is set to fan Auto mode, all the Status_ objects concerning fan will only show Auto enabled.

- If set to “yes”, when the indoor unit is set to fan Auto mode, all the Status_ objects concerning mode will show the real fan mode which the machine is working (Speed 1, Speed 2, etc). In case of the bitfield objects, also the Status_ Fan Speed Manual/Auto will be shown enabled with a “1” value.

Important: The communication objects shown in this section may be different depending on the number of fan speeds available, although they all share the same communication object number.
4.4.3 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.

\[16\] Control_Fan Speed +/- [DPT_1.007 - 1bit] - 0-Decr;1-Incr

- 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.
**DPT type for +/- Fan Speed Object**

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

**Roll-over Speed at upper/lower limit**

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

![Figure 4.13 Parameter detail](image)

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

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

- 13 Control_Fan Speed 1 [DPT_1.002 - 1bit] - 1-Set Fan Speed 1
- 14 Control_Fan Speed 2 [DPT_1.002 - 1bit] - 1-Set Fan Speed 2
- 15 Control_Fan Speed 3 [DPT_1.002 - 1bit] - 1-Set Fan Speed 3

- If set to “no” the objects will not be shown.
- If set to “yes” the Control_ Fan Speed objects for Speed 1, Speed 2 and Speed 3 will appear. To activate a Fan Speed by using these objects a “1” value has to 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.

- 65 Status_ Fan Speed 1 [DPT_1.002 - 1bit] - 1-Fan in Speed 1
- 66 Status_ Fan Speed 2 [DPT_1.002 - 1bit] - 1-Fan in Speed 2
- 67 Status_ Fan Speed 3 [DPT_1.002 - 1bit] - 1-Fan in Speed 3
If set to “no” the objects will not be shown.

- If set to “yes” the Status_ Fan Speed objects for Speed 1, Speed 2 and Speed 3 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.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status_ Fan Speed Text</td>
<td>[DPT_15.001 - 14byte] - ASCII String</td>
</tr>
</tbody>
</table>

- 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.

![Table](image)

**Figure 4.14 Parameter detail**

### 4.5 Vanes Up-Down Configuration dialog

All the parameters in this section are related with the Vanes Up-Down properties and communication objects.

![Table](image)

**Figure 4.15 Vanes Up-Down Configuration dialog**
4.5.1 Indoor unit has U-D Vanes

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

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

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

4.5.2 Available AUTOs in Indoor Unit

This parameter lets choose if the indoor unit has only 1 AUTO mode or 3 different AUTO modes.

⚠️ **Important:** Read the documentation of your indoor unit to check how many AUTO modes are available.

4.5.3 DPT object type for Vanes Up-Down

With this parameter is possible to change de DPT for the Control_Vanes U-D and Status_Vanes U-D byte-type communication objects. Datapoints Scaling (DPT_5.001) and Enumerated (DPT_5.010) can be selected.

⚠️ **Important:** The communication objects shown in this section may be different depending on the number of vanes position available, although they all share the same communication object number.

- When “Enumerated [DPT 5.010]” is selected, Control_Vanes U-D and Status_Vanes U-D communication objects for this DPT will appear.

   - Control_Vanes U-D / 4 Pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4
   - Status_Vanes U-D / 4 Pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4

To choose a vanes position, values from “1” to “4” 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 "4" is sent to the Control_ object, then the higher Position will be selected.

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

  - Control_ Vanes U-D / 4 Pos [DPT_5.001 - 1byte] - Thresholds: 33%, 63% and 88%
  - Status_ Vanes U-D / 4 Pos [DPT_5.001 - 1byte] - 25%, 50%, 75% and 100%

The next table shows the range of values that can be sent through the Control_ object and the value returned by the Status_ object.

<table>
<thead>
<tr>
<th>Vanes Pos.1</th>
<th>Vanes Pos.2</th>
<th>Vanes Pos.3</th>
<th>Vanes Pos.4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control_</strong></td>
<td>0% - 37%</td>
<td>38% - 62%</td>
<td>63% - 87%</td>
</tr>
<tr>
<td><strong>Status_</strong></td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
</tr>
</tbody>
</table>

### 4.5.4 Enable use of +/- object for Vanes U-D

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

- Control_ Vanes U-D +/- [DPT_1.007 - 1bit] - 0-Decr/1-Incr

  - If set to "no" the object will not be shown.
  - If set to "yes" the Control_ Vanes U-D +/- object and a new parameter will appear.

  - DPT type for +/- Vane Up-Down obj

    This parameter lets choose between the datapoints **0-Up / 1-Down [DPT_1.008]** and **0-Decr / 1-Incr [DPT_1.007]** for the Control_ Vanes U-D +/- object.
Does +/- sequence include AUTO vanes Up-Down?

This parameter lets choose if AUTO function is included (“yes”) or not (“no”) in the sequence when using Control_ Vanes 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 Control_ Vanes U-D +/- object.

Roll over Vanes at upper/lower limit

4.5.5 Enable “Vanes U-D Man/Auto” objects (for control and status)

This parameter shows/hides Control_ Vanes U-D Man/Auto y Status_ Vanes U-D Man/Auto communication objects. These objects can be different depending on the number of Auto’s available in the indoor unit.

- If set to “no” the object will not be shown.
- If set to “yes” the Control_ Lamas U-D Man/Auto(2,3) y Status_ Lamas U-D Man/Auto(2,3) objects will appear.

  - When a “1” value is sent to the Control_ communication object, Vanes Up-Down 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 Up-Down will be in Manual mode and the Status_ object will return this value.

⚠️ Important: When activating Auto Mode in the indoor unit, this one will choose the best position available for the Vanes Up-Down. This position will not be shown either in the KNX bus or in the remote controller.

⚠️ Important: Read the documentation of your indoor unit to check how many AUTO modes are available.
4.5.6 Enable use of bit-type Vane U-D objects (for Control)

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

- [ ] 21 Control_Vanes U-D Pos 1 [DPT_1.002 - 1bit] - 1-Set Position 1
- [ ] 22 Control_Vanes U-D Pos 2 [DPT_1.002 - 1bit] - 1-Set Position 2
- [ ] 23 Control_Vanes U-D Pos 3 [DPT_1.002 - 1bit] - 1-Set Position 3
- [ ] 24 Control_Vanes U-D Pos 4 [DPT_1.002 - 1bit] - 1-Set Position 4

- If set to “no” the objects will not be shown.
- If set to “yes” the Control_ Vane U-D objects for each Position will appear. To activate a Vane Position by using these objects, a “1” value has to be sent.

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

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

- [ ] 73 Status_Vanes U-D Pos 1 [DPT_1.002 - 1bit] - 1-Vanes in Position 1
- [ ] 74 Status_Vanes U-D Pos 2 [DPT_1.002 - 1bit] - 1-Vanes in Position 2
- [ ] 75 Status_Vanes U-D Pos 3 [DPT_1.002 - 1bit] - 1-Vanes in Position 3
- [ ] 76 Status_Vanes U-D Pos 4 [DPT_1.002 - 1bit] - 1-Vanes in Position 4

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

4.5.8 Enable use of Text object for Vane U-D

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

- [ ] 77 Status_Vanes U-D Text [DPT_15.001 - 14byte] - ASCII String

- If set to “no” the object will not be shown.
- If set to “yes” the Status_ Vane U-D Text object will appear. Also, in the parameters will be shown seven text fields, five for the Vane Position and one for the Auto function and another one for the Swing function, that will let modify the text string displayed by the Status_ Vane U-D Text when changing a vane position.

Figure 4.19 Parameter detail
4.6 **Temperature Configuration dialog**

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

### 4.6.1 Periodic sending of “Status_ AC Setp”

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

![Figure 4.20 Default Temperature Configuration dialog](image)

**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 “4.6.4 Ambient temp. ref. is provided from KNX”.

### 4.6.2 Enable use of +/- object for Setpoint Temp

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

![Figure 4.22 Parameter detail](image)

- 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.
4.6.3 Enable limits on Control_ Setpoint obj

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

- 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 31°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 lets to define the lower limit for the setpoint temperature.

- **Control_ Set Temp Upper limit (°C)**
  This parameter lets 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.

4.6.4 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.
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:

\[
\text{“AC Setp. Temp.”} = \frac{\text{“KNX Setp. Temp.”} - (\text{“KNX Amb. Temp.”} - \text{“KNX Setp. Temp.”})}{2}
\]

- 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 DK-AC-KNX-1i will send out to the indoor unit (shown in “AC Setp. Temp.”) will become 19°C – (21°C - 19°C)/2 = 18°C. This is the setpoint that will actually be requested to Daikin unit.

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

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

4.7 Scene Configuration dialog

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

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

![Parameter detail]

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

4.7.2 Scenes can be stored from KNX bus

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

![Parameter detail]

- 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).

- 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 has to be sent to the scene’s object we want to store (i.e. to store scene 4, a “1” has to be sent to the Control Store Scene 4 object).
4.7.3 Enable use of bit objects for scene execution

This parameter shows/hides the Control_Execute Scene bit-type communication objects.

- 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 has to be sent to the scene’s object we want to execute (i.e. to execute scene 4, a “1” has to be sent to the Control_Execute Scene 4 object).

4.7.4 Scene “x” preset

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

- 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 “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”, “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: “FAN SPEED 1”, “FAN SPEED 2”, “FAN SPEED 3”, 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: “VANES U-D POS 1”, “VANES U-D POS 2”, “VANES U-D POS 3”, “VANES U-D POS 4”, “VANES U-D SWING” or “(unchanged)”.

Scene “x” / Value for Setp Temp (ºC)

This parameter lets choose the setpoint temperature of the indoor unit when the scene is executed. The following options are available: from “16ºC” to “31ºC” (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.
## 4.8 Switch-Off Timeouts Configuration dialog

![Figure 4.30 Default Switch-Off Timeouts Configuration dialog](image)

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

### 4.8.1 Enable use of Open Window / Switch off timeout function

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

- **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.

![Figure 4.31 Parameter detail](image)

- **AC switch-off timeout (min)**
  
  This 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.

4.8.2 **Enable use of Occupancy function**

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

- 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.

![Parameter detail](image-url)
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 in order to save energy (decreasing the setpoint when in Heat mode, or increasing the setpoint when in Cool mode). Also new parameters will appear.

<table>
<thead>
<tr>
<th>Paramer detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp delta decrease (HEAT) or increase (COOL) (ºC)</td>
</tr>
<tr>
<td>Enable secondary timeout</td>
</tr>
</tbody>
</table>

Figure 4.33 Parameter detail

Temp delta decrease (HEAT) or increase (COOL) (ºC)

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 25ºC setpoint temperature, a +2ºC delta is applied after the occupancy timeout, setting the setpoint at 27ºC because there is no occupancy in the room. If the setpoint is raised to 29ºC during that period, when the room is occupied again, a -2ºC delta will be applied and the final setpoint temperature will then be 27ºC).

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.

<table>
<thead>
<tr>
<th>Parameter detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeout to apply action (min)</td>
</tr>
<tr>
<td>Action after timeout elapsed</td>
</tr>
<tr>
<td>Temp delta dec (HEAT) or inc (COOL) (ºC)</td>
</tr>
</tbody>
</table>

Figure 4.34 Parameter detail
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 turn off.

When Apply Preset Delta is selected, once the timeout 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) (ºC)

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”.

Reload last On/Off value when Occupied

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

If set to “yes”, once the switch-off timeout has elapsed, the last On/Off value will be reloaded.
- If a "1" value is sent to the Control_ Occupancy object after the timeout period, the indoor unit will **turn on**.
- If a "0" value is sent to the Control_ Occupancy after the timeout period no action will be performed.

### 4.8.3 Enable use of SLEEP timeout

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

```
#32 Control_Sleep Timeout [DPT_1.010 - 1bit] 0-Stop; 1-Start
```

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

![Figure 4.36 Parameter detail](image)

*Timeout to apply action (minutes)*

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

### 4.9 Binary Input “x” Configuration dialog

![Figure 4.37 Binary Input Configuration dialog](image)
All the parameters in this section are related with the binary inputs properties and communication objects.

4.9.1  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.

- If set to “no” the objects will not be shown.
- If set to “yes” the Status_ Inx object(s) and new parameters will appear.

4.9.2  Contact type

This parameter lets choose the behavior 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”.

4.9.3  Debounce time

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

4.9.4  Disabling function

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

- 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”.
4.9.5 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).

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

  ![Figure 4.38 Parameter detail]

  **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).

  ![Figure 4.39 Parameter detail]

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

- 91 Status_In2 - Dimming - On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
- 92 Status_In2 - Dimming - Step(%) [DPT_3.007 - 4bit] - Dimming step

**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 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:
  o For the short operation the binary input will send a “1” value after a “0” value and viceversa.
  o 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 lets select the decreasing step value (in %) that will be sent for a long operation.

Short/long operation limit (x100ms)

This parameter lets introduce the time period 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.
When "Shutter/Blind" is selected the communication objects and new parameters for the Input "x" will appear as shown below.

![Image]

**Figure 4.43 Parameter detail**

- **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).

![Image]

**Figure 4.44 Parameter detail**

- **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 vice versa.

**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 the *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 have to be defined in the “Short/long operation limit (x100ms)” parameter. Also the *T2* time have to be defined in the “Vanes adjustment time (x100ms)” parameter.

**Short/long operation limit (x100ms)**

This parameter lets introduce the time period difference for the short and the long operation (*T1* time).

**Vanes adjustment time (x100ms)**

This parameter lets introduce the time period for the vanes adjustment/blind movement (*T2* time).

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

![Figure 4.45 Parameter detail](image-url)
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 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).

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).

- 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).

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

![Figure 4.49 Parameter detail](image)

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

![Figure 4.50 Parameter detail](image)
5. Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Envelope</td>
<td>ABS (UL 94 HB), 2.5 mm thickness</td>
</tr>
<tr>
<td>Dimensions</td>
<td>70 X 70 X 28 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>70g</td>
</tr>
<tr>
<td>Colour</td>
<td>Ivory white</td>
</tr>
</tbody>
</table>
| Power supply  | 29V DC, 7mA  
Supplied through KNX bus. |
| Panasonic A/B Bus | Voltage: 13-15V  
Current: 10mA |
| LED indicators| 1 x KNX programming. |
| Push buttons  | 1 x KNX programming. |
| Binary inputs | 4 x Potential-free binary inputs.  
Signal cable length: 5m ushielded, may be extended up to 20m with twisted.  
Compliant with the following standards:  
IEC61000-4-2 : level 4 - 15kV (air discharge) - 8kV (contact discharge)  
MIL STD 883E-Method 3015-7 : class3B |
| Configuration | Configuration with ETS. |
| Operating Temperature | From -25°C to 85°C |
| Storage Temperature | From -40°C to 85°C |
| Isolation Voltage | 2500V |
| RoHS conformity | Compliant with RoHS directive (2002/95/CE). |
| Certifications | CE conformity to EMC directive (2004/108/EC) and Low-voltage directive (2006/95/EC)  
EN 61000-6-1; EN 61000-6-3; EN 60950-1; EN 50491-3; EN 50090-2-2;  
EN 50428; EN 60669-1; EN 60669-2-1 |
6. AC Unit Types compatibility.

A list of Panasonic indoor unit models compatible with PA-RC-KNX-1i and their available features can be found in:

### 7. Error Codes

<table>
<thead>
<tr>
<th>RC Display</th>
<th>Error code KNX object</th>
<th>Location or problem</th>
<th>Check location</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>65535 (1 if signed)</td>
<td>Error in the communication of PA-AC-KNX-1i device with the AC unit</td>
<td>Indoor/gateway connection wire</td>
</tr>
<tr>
<td>F15</td>
<td>1501</td>
<td>Drain level Float switch problem</td>
<td>Drain pump and drain pipe, indoor unit connectors</td>
</tr>
<tr>
<td>F16</td>
<td>1601</td>
<td>Louver switch problem</td>
<td>Louver motor, decorative panel connection terminal, or indoor unit louver motor connectors</td>
</tr>
<tr>
<td>F17</td>
<td>1701</td>
<td>D.C. Fan motor problem</td>
<td>Indoor unit D.C.Fan motor or connection terminals</td>
</tr>
<tr>
<td>F20</td>
<td>2001</td>
<td>Indoor temperature sensor problem</td>
<td>Indoor temperature sensor lead wire or indoor unit connector</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>Remote control thermistor problem</td>
<td>Remote control thermistor</td>
</tr>
<tr>
<td>F21</td>
<td>2101</td>
<td>Pipe temp. sensor problem (indoor unit)</td>
<td>Pipe temperature sensor lead wire or indoor unit connector</td>
</tr>
<tr>
<td>F26</td>
<td>2601</td>
<td>Remote control transmission problem</td>
<td>Remote control unit cable and connection terminals</td>
</tr>
<tr>
<td>F27</td>
<td>2701</td>
<td>Indoor/outdoor unit disconnection problem</td>
<td>Indoor/outdoor unit connection cable and connection terminals, or indoor unit power supplies (indoor side)</td>
</tr>
<tr>
<td></td>
<td>2701</td>
<td>Indoor/outdoor unit connection error problem</td>
<td>Indoor/outdoor unit connection wire (indoor side)</td>
</tr>
<tr>
<td></td>
<td>2701</td>
<td>Indoor/outdoor unit disconnection problem</td>
<td>Indoor/outdoor unit connection cable and connection terminals, or outdoor unit power supplies (outdoor side)</td>
</tr>
<tr>
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<td>2701</td>
<td>Indoor/outdoor unit connection error problem</td>
<td>Indoor/outdoor unit connection wire (outdoor side)</td>
</tr>
<tr>
<td>F30</td>
<td>3001</td>
<td>System problem</td>
<td>Total capacity for the number of indoor units is insufficient, or over. Check the total capacity and the number of indoor units</td>
</tr>
<tr>
<td></td>
<td>3001</td>
<td>Open phase, or reversed phase of supply</td>
<td>Check the main power supply terminal board connections, or switch over any two of the power supply wires</td>
</tr>
<tr>
<td>F31</td>
<td>3101</td>
<td>Suction pressure protection</td>
<td>Insufficient refrigerant or valve operation (closed)</td>
</tr>
<tr>
<td></td>
<td>3101</td>
<td>High-pressure cut-off</td>
<td>Check the Refrigeration system</td>
</tr>
<tr>
<td></td>
<td>3101</td>
<td>4 way valve problem</td>
<td>Check the 4 way valve or lead wire</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------</td>
<td>--------------------------------------------</td>
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<tr>
<td>F32</td>
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<tr>
<td>3101</td>
<td>Refrigerant system problem</td>
<td>Valve operation (closed), or refrigerant system</td>
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<tr>
<td>3201</td>
<td>Compressor overcurrent protection</td>
<td>Open phase or lock in compressor</td>
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</tr>
<tr>
<td>3201</td>
<td>Compressor discharge temp. protection</td>
<td>Insufficient refrigerant</td>
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<tr>
<td>F40</td>
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<tr>
<td>4001</td>
<td>Outdoor heat exchanger outlet temperature sensor problem</td>
<td>Outdoor heat exchanger outlet temperature sensor (COND TEMP) lead wire, connector</td>
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<tr>
<td>4001</td>
<td>Compressor discharge temperature sensor problem</td>
<td>Compressor discharge temperature sensor (DIS T. TEMP) lead wire, connector</td>
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</tr>
<tr>
<td>F41</td>
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<tr>
<td>4101</td>
<td>High pressure switch open circuit problem</td>
<td>High-pressure switch lead wire, connector</td>
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</tr>
<tr>
<td>4101</td>
<td>Low pressure sensor problem</td>
<td>Low pressure sensor lead wire, connector or valve operation (closed)</td>
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</tr>
<tr>
<td>F42</td>
<td></td>
<td></td>
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<tr>
<td>4201</td>
<td>Current detector open circuit</td>
<td>Outdoor unit current detector fault or connector</td>
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</tr>
<tr>
<td></td>
<td>Compressor internal protector worked</td>
<td>Compressor fault or refrigeration system</td>
<td></td>
</tr>
</tbody>
</table>

In case you detect an error code not listed, contact your nearest Panasonic technical support service for more information on the error meaning.
## Appendix A – Communication Objects Table

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>OBJECT NUMBER</th>
<th>NAME</th>
<th>LENGTH</th>
<th>DATAPoint TYPE</th>
<th>FLAGS</th>
<th>FUNCTION</th>
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<tbody>
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<tr>
<td></td>
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<td>DPT_NAME</td>
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<td>DPT_ID</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>R W T U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On/Off</td>
<td>0</td>
<td>Control_ On/Off</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001</td>
<td>W T 0 - Off; 1-On</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Control_ Mode</td>
<td>1 byte</td>
<td>DPT_HVACContrMode</td>
<td>20.105</td>
<td>W T 0 - Auto; 1 - Heat; 3 - Cool; 9 - Fan; 14 - Dry</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Control_ Mode Cool/Heat</td>
<td>1 bit</td>
<td>DPT_Heat/Cool</td>
<td>1.100</td>
<td>W T 0 - Cool; 1 - Heat;</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Control_ Mode Cool &amp; On</td>
<td>1 byte</td>
<td>DPT_Scaling</td>
<td>5.001</td>
<td>W T 0% - Off; 0.1%-100% - On + Cool</td>
</tr>
<tr>
<td>Mode</td>
<td>4</td>
<td>Control_ Mode Heat &amp; On</td>
<td>1 byte</td>
<td>DPT_Scaling</td>
<td>5.001</td>
<td>W T 0% - Off; 0.1%-100% - On + Heat</td>
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<tr>
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<td>5</td>
<td>Control_ Mode Auto</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T 1 - Auto</td>
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<tr>
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<td>6</td>
<td>Control_ Mode Heat</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T 1 - Heat</td>
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<tr>
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<td>7</td>
<td>Control_ Mode Cool</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T 1 - Cool</td>
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<td>8</td>
<td>Control_ Mode Fan</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T 1 - Fan</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Control_ Mode Dry</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T 1 - Dry</td>
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<tr>
<td></td>
<td>10</td>
<td>Control_ Mode +/</td>
<td>1 bit</td>
<td>DPT_Step</td>
<td>1.007</td>
<td>W 0 - Decrease; 1 - Increase</td>
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<tr>
<td></td>
<td></td>
<td>Control_ Mode +/</td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008</td>
<td>W 0 - Up; 1 - Down</td>
</tr>
<tr>
<td>Fan Speed</td>
<td>11</td>
<td>Control_ Fan Speed / 3</td>
<td>1 byte</td>
<td>DPT_Scaling</td>
<td>5.001</td>
<td>W T 0%-49% - Speed 1; 50%-82% - Speed 2; 83%-100% - Speed 3;</td>
</tr>
<tr>
<td>Function</td>
<td>Value Representation</td>
<td>Data Type</td>
<td>W/T</td>
<td>Description</td>
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<tr>
<td>Control Fan Speed / 3 Speeds</td>
<td>1 byte DPT_Enumerated 5.010</td>
<td>W T</td>
<td></td>
<td>1 - Speed 1; 2 - Speed 2; 3 Speed 3;</td>
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<td></td>
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<tr>
<td>Fan Speed</td>
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<td></td>
</tr>
<tr>
<td>12 Control Fan Speed Man/Auto</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>0 - Manual; 1 - Auto</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Control Fan Speed 1</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Fan Speed 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Control Fan Speed 2</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Fan Speed 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Control Fan Speed 3</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Fan Speed 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Control Fan Speed +/-</td>
<td>1 bit DPT_Step 1.007</td>
<td>W</td>
<td></td>
<td>0 - Decrease; 1 - Increase</td>
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<tr>
<td>Vanes Up-Down</td>
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</tr>
<tr>
<td>17 Control Vanes U-D / 4 pos</td>
<td>1 byte DPT_Scaling 5.001</td>
<td>W T</td>
<td></td>
<td>0%-37% - Pos1; 38%-62% - Pos2; 63%-87% Pos3; 88%-100% - Pos4;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Control Vanes U-D Man/Auto</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>0 - Manual; 1 - Auto</td>
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<tr>
<td>19 Control Vanes U-D Man/Auto2</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>0 - Manual; 1 - Auto2</td>
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<tr>
<td>20 Control Vanes U-D Man/Auto3</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>0 - Manual; 1 - Auto3</td>
<td></td>
<td></td>
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<tr>
<td>21 Control Vanes U-D Pos1</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Position 1</td>
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<tr>
<td>22 Control Vanes U-D Pos2</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Position 2</td>
<td></td>
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<tr>
<td>23 Control Vanes U-D Pos3</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Position 3</td>
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<tr>
<td>24 Control Vanes U-D Pos4</td>
<td>1 bit DPT_Bool 1.002</td>
<td>W T</td>
<td></td>
<td>1 - Set Position 4</td>
<td></td>
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<tr>
<td>25 Control Vanes U-D +/-</td>
<td>1 bit DPT_Step 1.007</td>
<td>W</td>
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<td>0 - Decrease; 1 - Increase</td>
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<td>Control_ Vanes U-D +/-</td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008</td>
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<td>0 - Up; 1 - Down</td>
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<tr>
<td><strong>Temperature</strong></td>
<td>26</td>
<td>Control_ Setpoint Temperature</td>
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<td>DPT_Value_Temp</td>
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<td>Control_ Setpoint Temp +/-</td>
<td>1 bit</td>
<td>DPT_Step</td>
<td>1.007</td>
<td>W</td>
<td>0 - Decrease; 1 - Increase</td>
</tr>
<tr>
<td></td>
<td>Control_ Setpoint Temp +/-</td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008</td>
<td>W</td>
<td>0 - Up; 1 - Down</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>Control_ Ambient Temperature</td>
<td>2 byte</td>
<td>DPT_Value_Temp</td>
<td>9.001</td>
<td>W T</td>
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<td><strong>Filter</strong></td>
<td>29</td>
<td>Control_ Reset Filter</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.015</td>
<td>W T</td>
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<tr>
<td><strong>Timeout</strong></td>
<td>30</td>
<td>Control_ Window Contact Status</td>
<td>1 bit</td>
<td>DPT_OpenClose</td>
<td>1.009</td>
<td>W T</td>
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<td></td>
<td>Control_ Switch Off Timeout</td>
<td>1 bit</td>
<td>DPT_Start</td>
<td>1.010</td>
<td>W T</td>
<td>0 - Stop; 1 - Start</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>Control_ Occupancy</td>
<td>1 bit</td>
<td>DPT_Occupancy</td>
<td>1.018</td>
<td>W T</td>
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<td>32</td>
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<td><strong>Locking</strong></td>
<td>33</td>
<td>Control_ Lock Remote Control</td>
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<td>1.002</td>
<td>W T</td>
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<td>Control_ Lock Control Objects</td>
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<td>1.002</td>
<td>W T</td>
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<td><strong>Special Modes</strong></td>
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<td>Control_ Power Mode</td>
<td>1 bit</td>
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<td>1.010</td>
<td>W T</td>
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<td><strong>Scenes</strong></td>
<td>36</td>
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<td>1.010</td>
<td>W T</td>
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<td>Control_ Additional Heat</td>
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<td>DPT_Start</td>
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<td>W T</td>
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<td>Control_ Additional Cool</td>
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<td>39</td>
<td>Control_ Save/Exec Scene</td>
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<td>DPT_SceneControl</td>
<td>18.001</td>
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<td>DPT_Bool</td>
<td>1.002</td>
<td>W</td>
<td>1 - Store Scene</td>
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<td>Control_ Store Scene4</td>
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<td>1.002</td>
<td>W</td>
<td>1 - Store Scene</td>
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<td>44</td>
<td>Control_ Store Scene5</td>
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<td>W</td>
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<td>W T</td>
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<td>46</td>
<td>Control_ Execute Scene2</td>
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<td>W T</td>
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<td>W T</td>
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<td>W T</td>
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<td>DPT_Bool</td>
<td>1.002</td>
<td>W T</td>
<td>1 - Execute Scene</td>
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<td>Control_ Disable Input 1</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W T</td>
<td>0 - Enable; 1 - Disable</td>
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<td>1 bit</td>
<td>DPT_Enable</td>
<td>1.003</td>
<td>W T</td>
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<td>1 bit</td>
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<td>1.002</td>
<td>W T</td>
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<td>1 bit</td>
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<td>1.003</td>
<td>W T</td>
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<td>Control_ Disable Input 3</td>
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<td>DPT_Bool</td>
<td>1.002</td>
<td>W T</td>
<td>0 - Enable; 1 - Disable</td>
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<td>1 bit</td>
<td>DPT_Enable</td>
<td>1.003</td>
<td>W T</td>
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<td>Control_ Disable Input 4</td>
<td>1 bit</td>
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<td>1.002</td>
<td>W T</td>
<td>0 - Enable; 1 - Disable</td>
</tr>
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<td>Control_ Disable Input 4</td>
<td>1 bit</td>
<td>DPT_Enable</td>
<td>1.003</td>
<td>W T</td>
<td>0 - Disable; 1 - Enable</td>
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<tr>
<td></td>
<td>Status_ On/Off</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001</td>
<td>R T</td>
<td>0 - Off; 1-On</td>
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<td>Status_ Mode</td>
<td>1 byte</td>
<td>DPT_HVACContrMode</td>
<td>20.105</td>
<td>R T</td>
<td>0 - Auto; 1 - Heat; 3 - Cool; 9 - Fan; 14 - Dry</td>
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<tr>
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<td>1 bit</td>
<td>DPT_Heat/Cool</td>
<td>1.100</td>
<td>R T</td>
<td>0 - Cool; 1 - Heat</td>
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<td>Status_ Mode Auto</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>R T</td>
<td>1 - Auto</td>
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<td>Type</td>
<td>Length</td>
<td>Structure</td>
<td>Format</td>
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<td>DPT_Bool</td>
<td>1.002</td>
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<td>DPT_Bool</td>
<td>1.002</td>
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<td>62</td>
<td>Status Mode Text</td>
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<td>DPT_String_8859_1</td>
<td>16.001</td>
<td>R</td>
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<td>63</td>
<td>Status Fan Speed / 3 Speeds</td>
<td>1 byte</td>
<td></td>
<td>DPT_Scaling</td>
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<td>DPT_Bool</td>
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<td>DPT_Bool</td>
<td>1.002</td>
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<td>68</td>
<td>Status Fan Speed Text</td>
<td>14 byte</td>
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<td>DPT_String_8859_1</td>
<td>16.001</td>
<td>R</td>
</tr>
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<td>69</td>
<td>Status Vanes U-D / 4 pos</td>
<td>1 byte</td>
<td></td>
<td>DPT_Scaling</td>
<td>5.001</td>
<td>R</td>
</tr>
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<td>Status Vanes U-D / 4 pos</td>
<td>1 byte</td>
<td></td>
<td>DPT_Enumerated</td>
<td>5.010</td>
<td>R</td>
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<td>70</td>
<td>Status Vanes U-D Man/Auto</td>
<td>1 bit</td>
<td></td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W</td>
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<td>71</td>
<td>Status Vanes U-D Man/Auto2</td>
<td>1 bit</td>
<td></td>
<td>DPT_Bool</td>
<td>1.002</td>
<td>W</td>
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<td>72</td>
<td>Status Vanes U-D Man/Auto3</td>
<td>1 bit</td>
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<td>DPT_Bool</td>
<td>1.002</td>
<td>W</td>
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<td>Status Vanes U-D Pos1</td>
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<td>DPT_Bool</td>
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<td>No.</td>
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<td>Type</td>
<td>DPT</td>
<td>Access</td>
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<td>Status_ Vanes U-D Pos2</td>
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<td>1.002 R</td>
<td>T 1 - Position 2</td>
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<td>75</td>
<td>Status_ Vanes U-D Pos3</td>
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<td>DPT_Bool</td>
<td>1.002 R</td>
<td>T 1 - Position 3</td>
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<td>Status_ Vanes U-D Pos4</td>
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<td>DPT_Bool</td>
<td>1.002 R</td>
<td>T 1 - Position 4</td>
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<td>77</td>
<td>Status_ Vanes U-D Text</td>
<td>14 byte</td>
<td>DPT_String_8859_1</td>
<td>16.001 R</td>
<td>T ASCII String</td>
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<td>78</td>
<td>Status_ AC Setpoint Temp</td>
<td>2 byte</td>
<td>DPT_Value_Temp</td>
<td>9.001 R</td>
<td>T (ºC)</td>
<td></td>
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<tr>
<td>79</td>
<td>Status_ Filter Status</td>
<td>1 bit</td>
<td>DPT_Bool</td>
<td>1.002 R</td>
<td>T 0 - No Alarm; 1 - Alarm</td>
<td></td>
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<tr>
<td>80</td>
<td>Status_ Error/Alarm</td>
<td>1 bit</td>
<td>DPT_Alarm</td>
<td>1.005 R</td>
<td>T 0 - No Alarm; 1 - Alarm</td>
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<td>81</td>
<td>Status_ Error Code</td>
<td>2 byte</td>
<td>Enumerated</td>
<td>R T</td>
<td>0 - No Error; Any other see user's manual</td>
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<tr>
<td>82</td>
<td>Status_ Error Text code</td>
<td>14 byte</td>
<td>DPT_String_8859_1</td>
<td>16.001 R</td>
<td>T 3 char MH Error; Empty - none</td>
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</tr>
<tr>
<td>83</td>
<td>Status_ Power Mode</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1-On</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>Status_ Econo Mode</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1-On</td>
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<tr>
<td>85</td>
<td>Status_ Additional Heat</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1-On</td>
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<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1-On</td>
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<td>87</td>
<td>Status_ Operation Hour Counter</td>
<td>2 byte</td>
<td>DPT_Value_2_Ucount</td>
<td>7.001 R</td>
<td>T Number of operating hours</td>
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<td>Status_ Current Scene</td>
<td>1 byte</td>
<td>DPT_SceneNumber</td>
<td>17.001 R</td>
<td>T 0 to 4 - Scene 1 to 5; 63 - No Scene</td>
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<td>89</td>
<td>Status_ Inx - Switching</td>
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<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1-On</td>
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<td>90</td>
<td>Status_ Inx - Value</td>
<td>1 byte</td>
<td>DPT_Value_1_Ucount</td>
<td>5.010 R</td>
<td>T 1 byte unsigned value</td>
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<td>91</td>
<td>Status_ Inx - Dimming - On/Off</td>
<td>1 bit</td>
<td>DPT_Switch</td>
<td>1.001 R</td>
<td>T 0 - Off; 1 - On</td>
<td></td>
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<tr>
<td>93</td>
<td>Status_ Inx - Shut/Blind - Step</td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008 R</td>
<td>T 0 ~ Step Up; 1 - Step Down</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>Status_ Inx - Shut/Blind - Step</td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008 R</td>
<td>T 0 ~ Step Up; 1 - Step Down</td>
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<td>Status_Inx - Value</td>
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<td>DPT</td>
<td>Value</td>
<td>Unit</td>
<td>Description</td>
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<td>2 byte signed value</td>
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<td>2 byte</td>
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<td>Temperature (°C)</td>
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<td>4 byte unsigned value</td>
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<td>Dimming step</td>
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<td></td>
<td>1 bit</td>
<td>DPT_UpDown</td>
<td>1.008</td>
<td>R</td>
<td>0 – Move Up; 1 – Move Down</td>
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