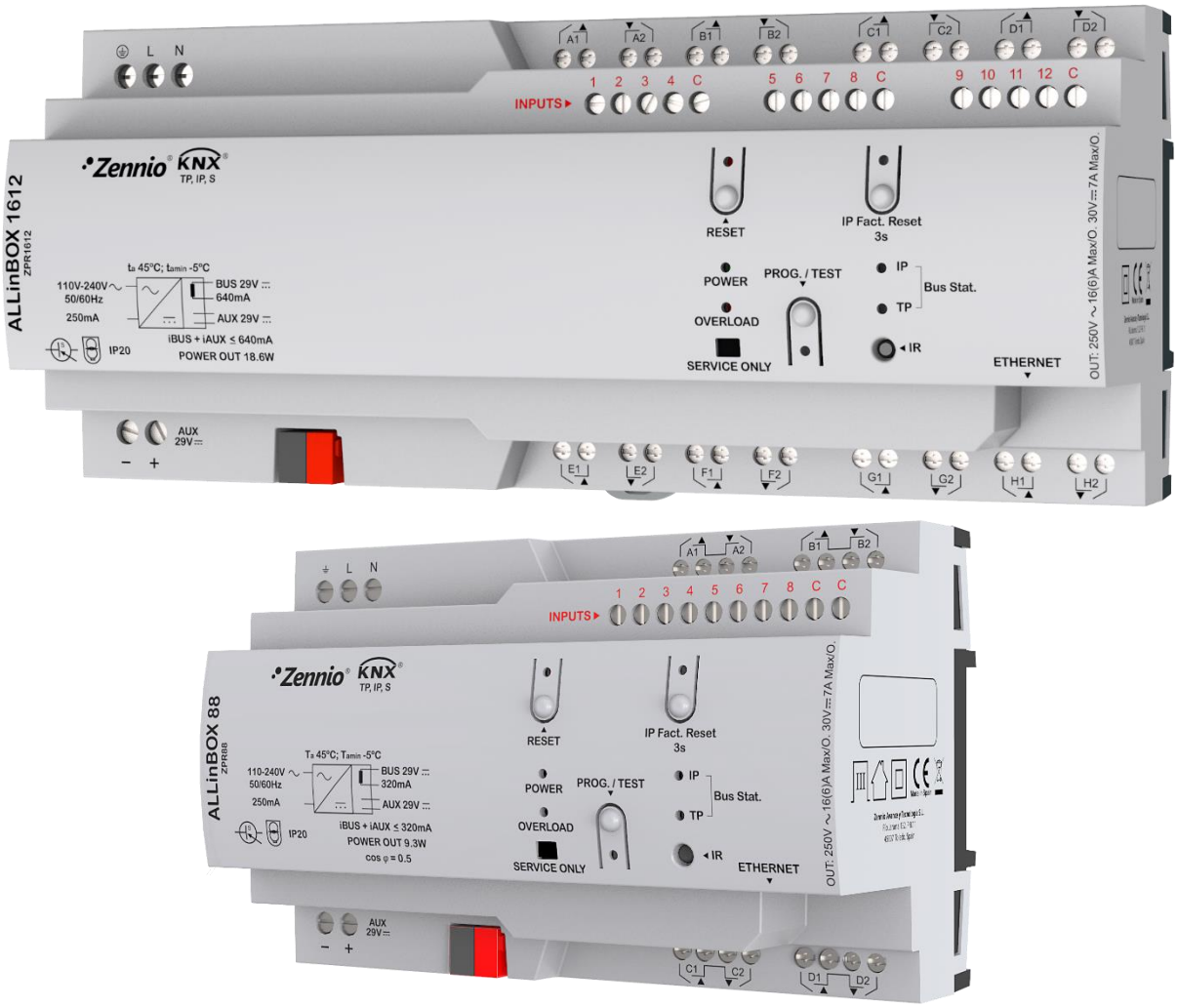


ALLinBOX 1612 / 88

Multifunction device with power supply, KNX-IP Interface, 16/8 outputs, 12/8 inputs and logical module

ZPR1612
ZPR88

Application program version – ALLinBOX 1612: [1.3]
Application program version – ALLinBOX 88: [1.2]
User manual edition: [1.3]_a

www.zennio.com

USER MANUAL

CONTENTS

DOCUMENT UPDATES

Version	Changes	Page(s)
[1.3] _a	**Changes in the application program of ALLinBOX 88**: • Support for Firmware 4.1.0.	-
[1.2] _a	**New device: ALLinBOX 88**. **Changes in the application program**: • 4 standard Thermostat modules are included. • New functionality in IP Factory reset.	24 10, 11
[1.1] _a	**Changes in the application program**: • Optimization of inputs pulse detection.	-

1 INTRODUCTION

1.1 ALLinBOX 1612 / ALLinBOX 88

ALLinBOX 1612 and ALLinBOX 88 are a versatile KNX actuators featuring a wide variety of functions:

- **16 / 8 relay outputs**, configurable as:
  - Up to 8 / 4 independent shutter channels (with or without slats),
  - Up to 16 / 8 individual ON/OFF outputs,
  - Up to 2 / 1 *fan coil* modules,
  - A combination of the above.
- **12 / 8 multi-purpose inputs**, configurable as:
  - Temperature probes (possibility to parameterise a personalised probe),
  - Binary inputs (i.e., pushbuttons, switches, sensors),
  - Motion detectors.
- **20 customisable, multi-operation logic functions**.
- Up to **4 standard thermostats** and 4 **Hospitality thermostats**.
- **2 master light control instances** for an easy, out-of-the-box control of a set of luminaires (or functionally equivalent devices) one of which acts as a general lamp and the others as secondary lamps.
- **Manual operation / supervision** of the 16 relay outputs through infrared.
- **Scene-triggered action control,** with an optional delay in the execution.
- **Relay switches counter.**
- **Heartbeat** or periodical “still-alive” notification.

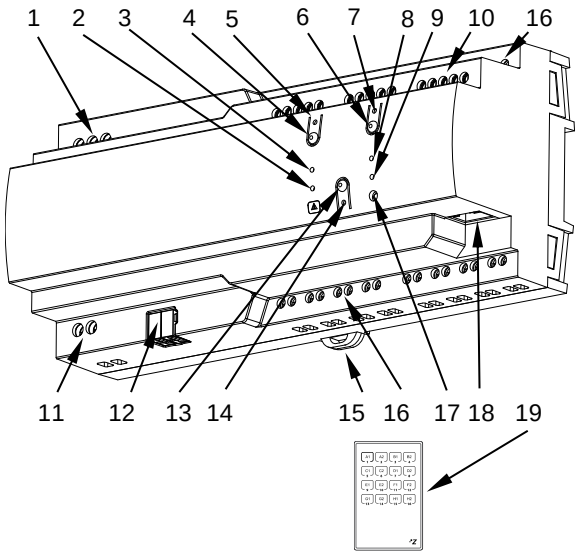
- **IP interface**

  - Up to 5 parallel connections from ETS for programming and monitoring.
  - High capacity buffer

- **6 light indicators** (LEDs): two state indicators for the power supply (power and overload), one power supply factory reset indicator, two state indicators for the lines (bus and Ethernet), one more IP factory reset indicator, and one additional indicator for the programming mode.

- **Power supply 29V – 1,4 mA (40W).** It is divided between an auxiliary output of 29V and a bus output with KNX coil include. The nominal input of the power supply must be universal 110/230V ~ 50/60Hz**.**

1.2 INSTALLATION



1. Main Power Supply.
2. Overload Status LED.
3. Power Supply Status LED.
4. Reset Button.
5. Reset Status LED.
6. IP Factory Reset Button.
7. IP Factory Reset LED.
8. Ethernet LED.
9. KNX Bus LED.
10. Analog/Digital Inputs.
11. Auxiliary Power Output.
12. KNX Connector.
13. Programming/Test Button.
14. Programming/Test LED.
15. Fixing Clamp.
16. Outputs.
17. IR Input.
18. Ethernet Connector.
19. Remote Control.

Figure 1. ALLinBOX 1612 elements scheme.

Note: *the above figure is entirely analogous for ALLinBOX 88*.

Figure 1 shows a scheme of ALLinBOX 1612 with all the LED indicator and required connections. ALLinBOX has its own power supply, so it does not need an additional one and it serves to supply the rest of the devices through the KNX bus.

The couple LNX twisted-pair (TP) line and LAN network, the KNX bus (12) and Ethernet (18) cables must be connected. After the connection, the device can be conveniently mounted on the DIN rail by the usual procedure.

The main elements of the device are described next.

- **Test/Prog. Pushbutton (13)**: a short press on this button sets the device into the programming mode, making the associated LED (14) light in red.

Note: *if this button is held while plugging the device into the KNX bus, the device will enter into* ***safe mode****. In such case, the LED will blink in red every 0.5 seconds.*

- **Outputs (16)**: output ports for the insertion of the stripped cables of the systems being controlled by the actuator (see section 2.6). Please secure the connection by means of the on-board screws.

- **Inputs (10)**: input ports for the insertion of the stripped cables of external elements such as switches / motion detectors / temperature probes, etc. One of the two cables of each element need to be connected to one of the slots labelled “1” to “12”, while the other cable should be connected to the slot labelled as “C”. Note that all the external input devices share the “C” slot for one of the two cables. Please secure the connection by means of the on-board screws.

- **LEDs (2, 3, 5, 7, 8 y 9) and reset buttons (4 y 6)**: the behaviour will be described in section 1.4.

- **Main Power Supply (1)**: slots for the connection of the voltage wires (phase, neutral and ground).

To get detailed information about the technical features of this device, as well as on the installation and security procedures, please refer to the corresponding **Datasheet**, bundled with the original package of the device and also available at www.zennio.com.

1.3 START-UP AND POWER LOSS

During the start-up of the device, the Test/Prog. LED will blink in blue colour for a few seconds before ALLinBOX is ready. External orders will not be executed during this time, but afterwards.

Depending on the configuration, some specific actions will also be performed during the start-up. For example, the integrator can set whether the output channels should switch to a particular state and whether the device should send certain objects to the bus after the power recovery. Please consult the next sections of this document for further details.

On the other hand, when a bus power failure takes place, ALLinBOX will interrupt any pending actions, and will save its state so it can be recovered once the power supply is restored.

For safety reasons, all **shutter channels** will be stopped (i.e., the relays will open) if a power loss takes place, while the individual outputs and fan coil contacts will switch to the specific state configured in ETS (if any).

1.4 LED INDICATORS

ALLinBOX incorporates 7 LED lights on the top of the device that make it easy to monitor the status of the buses and to detect typical communication problems, as detailed next.

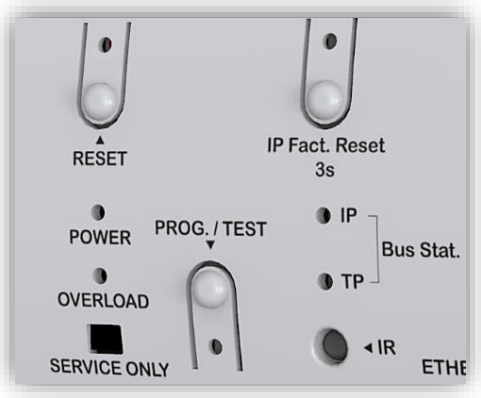


Figure 2. LEDs

- **KNX Line Status LED (TP)**: shows the status of the primary bus.
  - OFF: error or KNX line not connected or not powered.
  - ON (green) = TP connection OK.

  Note: *the update of the LED status can be delayed a few seconds after the trigger event, e.g., after the disconnection of the main line.*

- **Ethernet Line Status LED (IP)**: shows the status of the secondary bus.
  - OFF: error or IP line not connected.
  - ON (green): Ethernet connection OK

- **Power Supply Status LED (POWER)**: shows the status of the power supply.
  - OFF: free-voltage device.
  - ON (green): voltage device (power supply OK).
  - BLINKING (green): short circuit in the power supply / "Reset" button press.

- **Overload LED (OVERLOAD)**: notifies a high consumption in the power supply.
  - OFF: device with low power consumption.
  - ON (red): device with too high consumption.
  - BLINKING (green): short circuit in the power supply.

- **Programming LED**:
  - OFF = normal operation.
  - ON (red) = programming mode active.

- **IP Factory Reset LED:**
  - OFF: normal operation.
  - ON (red): IP restored by DHCP.
  - ON (green): static IP (of ETS configuration) restored.
  - ON (yellow): IP restored by APIPA.

  Note: *Please refer to section 1.5 for further details.*

- **Reset LED:**
  - OFF: normal operation.
  - ON (red): while the button is pressed (power supply is reset) and short circuit in the power supply.

1.5 HARD RESET TO FACTORY DEFAULTS

By **pressing the "IP Factory Reset" button for three seconds**:

- The device will adopt an **IP address via the DCHP server**.
  - If the DHCP client does not obtain a valid IP address (after several attempts), then the device will be assigned an **IP address via the AutoIP (APIPA)**[1] protocol.
    The factory reset indicator LED will light up in red.

If a **second-long press** is made on the "IP Factory Reset" button

- The device will adopt a **static IP address**.
  - If "Use a static IP address" has been chosen in the ETS configuration, the device will have the **configured IP**.
    The factory reset led will light up in green.
  - If, on the other hand, in the ETS configuration "Obtain an IP address automatically" has been chosen, the device will obtain an **IP by means of AutoIP (APIPA)**.
    The factory reset indicator LED lights up yellow.

The factory IP setting and the colour of the factory reset LED will remain until the device is restarted.

The following table summarizes the above:

Press	ETS Configuration	IP Configuration	LED
1st long press (3s)	Obtain an IP automatically	IP obtained by DHCP. (If a valid IP is not obtained → IP by APIPA)	Red
	Use a static IP address		
2nd long press (3s)	Obtain an IP automatically	IP obtained by APIPA	Yellow
	Use a static IP address	Static IP of ETS configuration	Green

Note: *For firmware versions lower than 4.2.0, the IP is only reset by DHCP.*

[1] Random static IP configuration in the range 169.254.1.0 - 169.254.254.255

1.6 HARD RESET POWER SUPPLY

If “Reset” button is **pressed**, a short circuit is made in the output power supply (29V). The device will not restart (and will not have voltage) until the button is released.

2 CONFIGURATION

To begin with the parameterisation process of the device, it is necessary, once the ETS program has been opened, to import the database of the product. Next, the device should be added to the project where desired.

The configuration of this device is done both in the parameters tab and in the ETS properties. The following sections explain how to configure each of the device functionalities.

2.1 KNX TO IP INTERFACE

ALLinBOX is an interface device intended for the **interconnection between a KNX bus and an Ethernet network (LAN).**

The network parameters can be configured in the "IP" panel of the ETS "Properties":

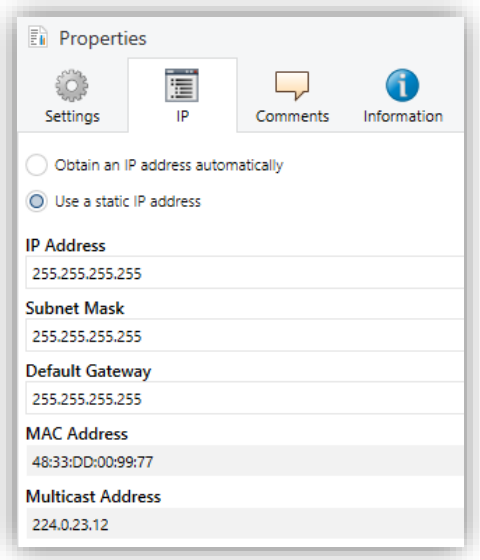


Figure 3 IP Configuration

- *Obtain an IP address automatically*[2]. ALLinBOX will automatically take an IP address whenever there is a DCHP server in the local network to which it is connected.

[2] The default values of each parameter will be highlighted in blue in this document, as follows: [*default*/*rest of options*].

- *Use a static IP address*. If DHCP protocol is not used, the following properties must be set manually:
  - **IP Address** [*0.0.0.0…255.255.255.255*]**.**
  - **Subnet Mask** [*0.0.0.0…255.255.255.255*]**.**
  - **Default Gateway** [*0.0.0.0…255.255.255.255*]**.**

  Note: *If a static IP is configured, it is important to make sure that no other device on the network has this IP assigned to it and that it does not belong to the DHCP range configured for the router, otherwise connection problems with the ALLinBOX will be observed.*

In addition, the following information will be shown:

- **MAC Address.**
- **Multicast Address** [*224.0.23.12*]: IP address (reserved by the IANA organization for the KNXnet/IP protocol) used by ETS in this case, for discovering the available KNX-IP interfaces within the same network.

Once these properties have been entered an ETS programming is required to download the configuration to the device.

2.2 PROGRAMMER

ALLinBOX can be used in ETS as a **programming interface**. In addition to an IP address, they must be assigned a KNX individual address for this purpose.

Up to five simultaneous connections are allowed for performing downloads or for bus monitoring.

Note: *to detect the ALLinBOX as a programmer in ETS, it needs to be connected to the same IP network as the PC*.

To use a device as a programmer simply select it in the ETS "Bus" tab under Connections → Interfaces.

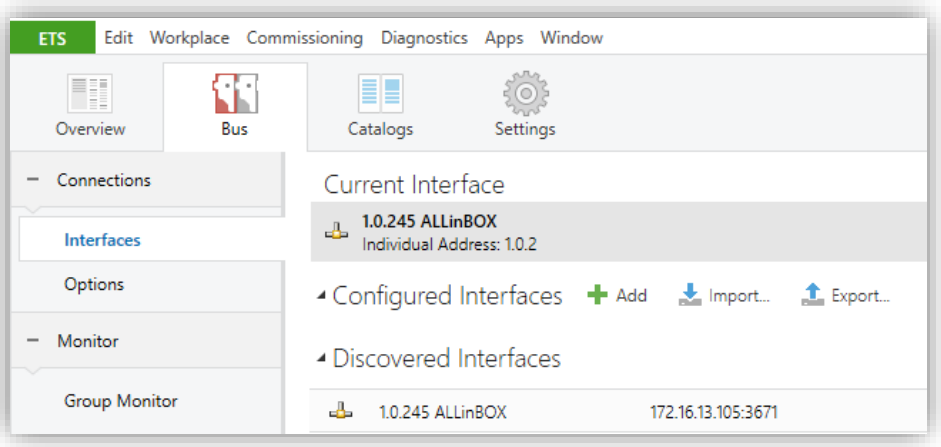


Figure 4. Selection of ALLinBOX in the Bus Connections tab in ETS.

Or by selecting it at the bottom left after opening a project in ETS.

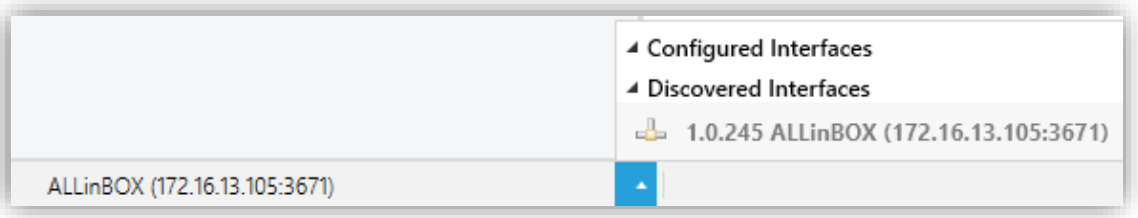


Figure 5. Selection of ALLinBOX in a ETS project.

Important: *If the ALLinBOX is selected as the programming interface to program itself it is recommended to first perform individual address download and then application download, rather than complete download (complete download causes a device restart and therefore communication with ETS is lost and the download is cancelled).*

2.2.1 PARALLEL DOWNLOADS

ETS offers the option to perform multiple parallel downloads within the same project. This option is only available for connections via a KNX-IP router or a KNX-IP interface. Certain conditions must be met:

- Each download must be performed on a different line.
- For each line, it is necessary to select one **ALLinBOX** to perform the download.

Note: *There is a restriction: parallel downloads are **not available to download physical addresses**. When performing this type of downloads, the link device used by ETS is not the one configured for the line but the general one.*

In "Settings" panel, in “Properties” of the line, the connection can be selected.

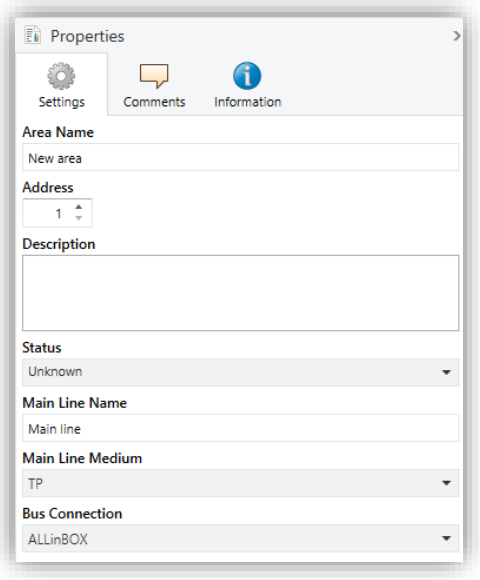


Figure 6 ETS5 parallel downloads configuration.

Note: *once the connection has been selected, it will not be available for the other lines.*

2.3 ADDICIONAL INDIVIDUAL ADDRESSES (TUNNELING ADDRESSES)

ALLinBOX requires a specific individual address when acting as a programming interface (*tunneling*) other than the address of the device itself. Up to five simultaneous connections are possible, which implies that up to five different individual addresses must be configured.

After the individual ALLinBOX address has been set, the five tunneling addresses are automatically set with consecutive values. This can be changer at any time.

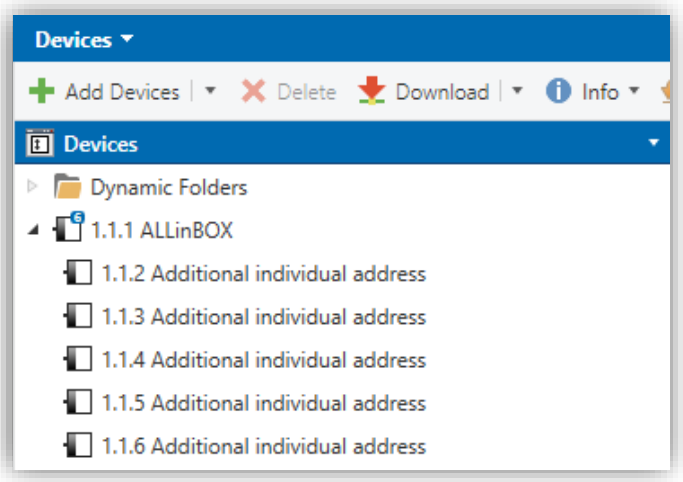


Figure 7 Set tunneling addresses.

Note: *ALLinBOX tunnelling addresses must not match any of the addresses set to other devices on the system.*

2.4 GENERAL

After importing the corresponding database in ETS and adding the device into the topology of the desired project, the configuration process begins by entering the Parameters tab of the device.

ETS PARAMETERISATION

The "General" tab contains general settings. From this screen it is possible to activate/deactivate all the required functionality.

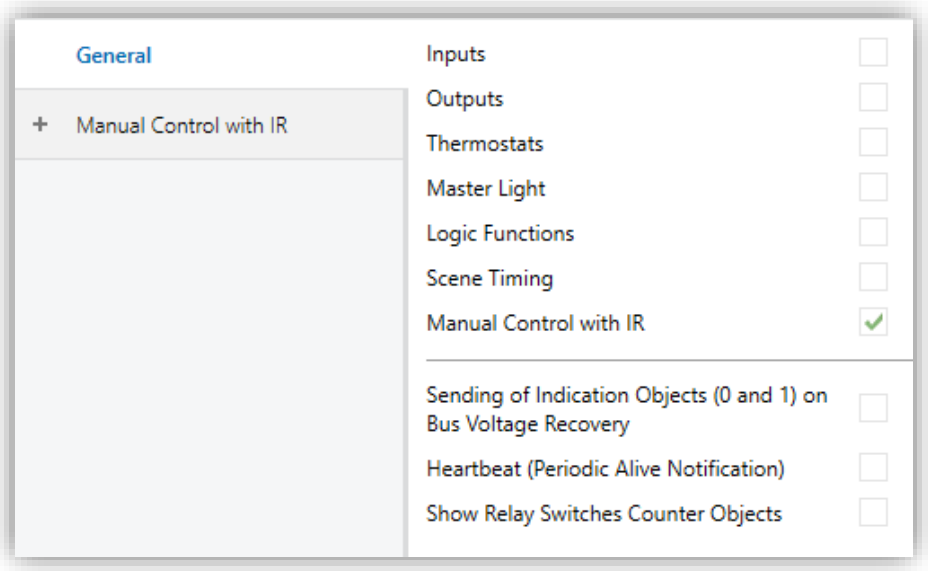


Figure 8. General screen

- **Inputs** [*disabled/enabled*]: enables o disables the “Inputs” tab on the left menu. See section 2.5 for more details.
- **Outputs** [*disabled/enabled*]: enables o disables the “Outputs” tab on the left menu. See section 2.6 for more details.
- **Thermostats** [*disabled/enabled*]: enables o disables the “Thermostats” tab on the left menu. See section 2.7 for more details.
- **Master Light** [*disabled/enabled*]: enables o disables the “Master Light” tab on the left menu. See section 2.8 for more details.

- **Logic Functions** [*disabled/enabled*]: enables o disables the "Logic Functions" tab on the left menu. See section 2.9 for more details.

- **Scene Timing** [*disabled/enabled*]: enables o disables the "Scene Timing" tab on the left menu. See section 2.10 for more details.

- **Manual Control with IR** [*disabled/enabled*]: enables o disables the "Manual Control" tab on the left menu. See section 2.11 for more details.

- **Sending of Indication Objects (0 and 1) on Bus Voltage Recovery** [*disabled/enabled*]: this parameter lets the integrator activate two new communication objects ("**Reset 0**" and "**Reset 1**"), which will be sent to the KNX bus with values "0" and "1" respectively whenever the device begins operation (for example, after a bus power failure). It is possible to parameterise a certain **delay** [*0…255*] to this sending.

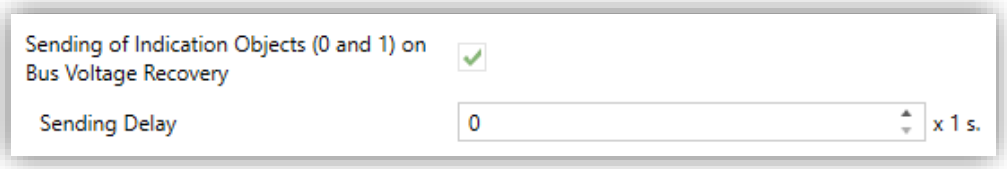


Figure 9. Sending of Indication objects on bus voltage recovery

- **Heartbeat (Periodic Alive Notification)** [*disabled/enabled*]: this parameter lets the integrator incorporate a one-bit object to the project ("**[Heartbeat] Object to Send '1'**") that will be sent periodically with value "1" to notify that the device is still working (*still alive*).

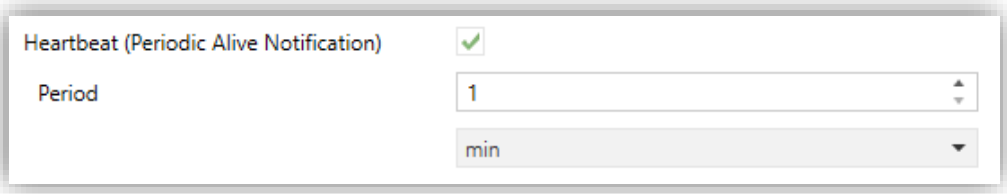


Figure 10. Heartbeat.

Note: *The first sending after download or bus failure takes place with a delay of up to 255 seconds, to prevent bus overload. The following sendings match the period set.*

- **Show Relay Switches Counter Objects** [*disabled*/*enabled*]: enables two communication objects to keep track of the number of switches performed by each of the relays ("**[Relay X] Number of Switches**") and the maximum number of switches carried out in a minute ("**[Relay X] Maximum Switches per Minute**").

2.5 INPUTS

ALLinBOX incorporates **12 analogue/digital inputs**, each configurable as a:

- **Binary Input**, for the connection of a pushbutton or a switch/sensor.
- **Temperature Probe**, to connect a temperature sensor from Zennio.
- **Motion Detector**, to connect a motion detector from Zennio.

  Important: *Older models of the Zennio motion detector (e.g., ZN1IO-DETEC and ZN1IO-DETEC-N) will not work properly with ALLinBOX* 1612 / 88*.*

2.5.1 BINARY INPUT

Please refer to the "**Binary Inputs**" user manual, available under the ALLinBOX 1612 / 88 product section at www.zennio.com.

2.5.2 TEMPERATURE PROBE

Please refer to the "**Temperature Probe**" user manual, available under the ALLinBOX 1612 / 88 product section at www.zennio.com.

2.5.3 MOTION DETECTOR

It is possible to connect motion detectors from Zennio to the input ports of ALLinBOX 1612 / 88.

Please refer to the "**Motion Detector**" user manual, available under the ALLinBOX 1612 / 88 product section at www.zennio.com, for detailed information about the functionality and the configuration of the related parameters.

2.6 OUTPUTS

ALLinBOX 1612 / 88 incorporates **16 / 8 relay outputs**, each configurable as a:

- **Individual binary output**, which allows an independent control of a load (up to 16 / 8 different loads can be controlled by a ALLinBOX 1612 / 88 respectively).
- **Shutter channel**, which allows controlling the motion of one blind (up to 8 / 4 blinds can be controlled by a ALLinBOX 1612 / 88 respectively).
- **Fan Coil modules**, which allows control of the motion fan and the valve (up to 2 / 1 modules can be controlled by a ALLinBOX 1612 / 88 respectively).

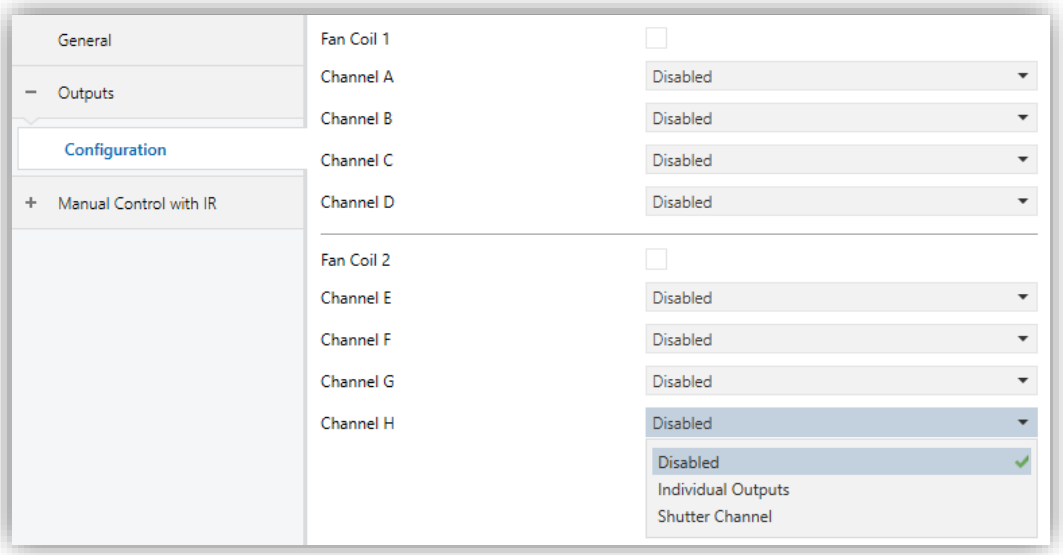


Figure 11. Outputs screen.

Each channel can be configured through the drop-down list as two independent **binary outputs** or as a **shutter channel** (which makes use of both relays).

ALLinBOX incorporates **fan coil control modules**, which will be responsible for operating the relays than open and close the water pipe valves (either one three-point valve or up to two on-off valves), and the relays that set the fan speed level. The latter can be achieved through **relay accumulation** (more relays closed means a higher fan speed) or through **relay commutation** (one specific relay will be available per level), depending on the configuration. The relays distribution for the valves control is shown in the following table for every possible parameterisation:

Fan coil	Number of pipes	Valve type	Output	Action
1	4	On / Off	Output B2	Cooling Valve
			Output C1	Heating Valve
		Three-point	Output B2	Opening Cooling Valve
			Output C1	Closing Cooling Valve
			Output C2	Opening Heating Valve
			Output D1	Closing Heating Valve
	2	On / Off	Output B2	Cooling and/or Heating Valve
		Three-point	Output B2	Opening Valve for both modes
			Output C1	Closing Valve for both modes
2	4	On / Off	Output F2	Cooling Valve
			Output G1	Heating Valve
		Three-point	Output F2	Opening Cooling Valve
			Output G1	Closing Cooling Valve
			Output G2	Opening Heating Valve
			Output H1	Closing Heating Valve
	2	On / Off	Output F2	Cooling and/or Heating Valve
		Three-point	Output F2	Opening Valve for both modes
			Output G1	Closing Valve for both modes

Table 1. Actions performed by the binary outputs associated to the valve control.

For detailed information about the functionality and the configuration of the related parameters, please refer to the following specific manuals, all of them available under the ALLinBOX 1612 / 88 product section at the Zennio homepage (www.zennio.com):

- **Individual outputs.**
- **Shutter channels.**
- **'Relays' Fan coil.**

2.7 THERMOSTATS

ALLinBOX implements **four standard thermostats and four Hospitality thermostats** which can be enabled and configured independently.

The use of the Hospitality thermostat is only recommended for hotel rooms.

Please refer to the specific "**Thermostat**" or "**Hospitality Thermostat**" user manual available under the ALLinBOX 1612 / 88 product section at the Zennio homepage (www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

2.8 MASTER LIGHT

This function brings the option to monitor the state of 2 master light modules up to 12 light sources (or even more, if the Master Light controls from multiple Zennio devices are linked together) or of any other elements whose state is transmitted through a binary object and, depending on those states, perform a ***master order*** every time a certain trigger signal (again, a binary value) is received through a specific object.

Such master order will consist in:

- A **general switch-off** order, if at least one of the up to twelve status objects is found to be on.
- A **courtesy switch-on** order, if none of the up to twelve status objects is found to be on.

Note that the above switch-off and switch-on orders are not necessarily a binary value being sent to the bus – it is up to the integrator the decision of what to send to the KNX bus in both cases: a shutter order, a thermostat setpoint or mode switch order, a constant value, a scene… Only the trigger object and the twelve status objects are required to be binary (on/off).

The most typical scenario for this Master Light control would be a hotel room with a master pushbutton next to the door. When leaving the room, the guest will have the possibility of pressing on the master pushbutton and make all the lamps turn off together. Afterwards, back on the room and with all the lamps off, pressing on the

same master pushbutton will only make a particular lamp turn on (e.g., the closest lamp to the door) – this is the courtesy switch-on.

Besides, it is possible to concatenate two or more Master Light modules by means of a specific communication object which represents the general state of the light sources of each module. Thereby, it is possible to expand the number of light sources by considering the general state of one module as an additional light source for another.

ETS PARAMETERISATION

Once the Master Light function has been enabled, a specific tab will be included in the menu on the left. This new parameter screen (Figure 12) contains the following options:

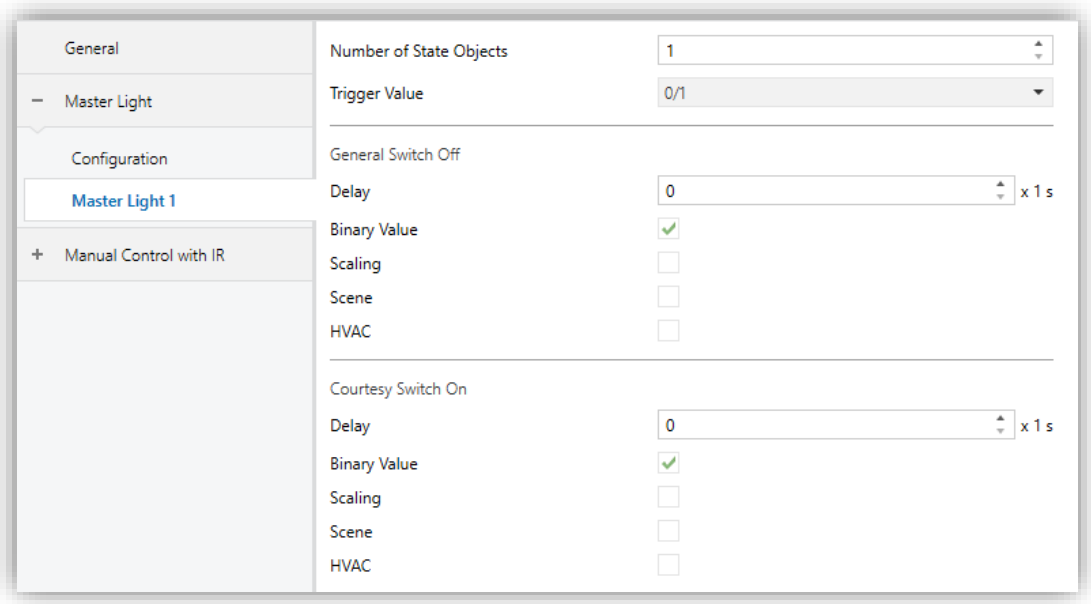


Figure 12. Master Light

- **Number of State Objects** [*1…12*]: defines the number of 1-bit status objects required. These objects are called "**[ML] Status Object *n***".

  In addition, the general status object ("**[ML] General status**") will always be available in the project topology. It will be sent to the bus with a value of "1" whenever there is at least one of the above state objects with such value. Otherwise (i.e., if none of them has a value of "1"), it will be sent with a value of "0".

- **Trigger Value** [*0 / 1 / 0/1*]: sets the value that will trigger, when received through "**[ML] Trigger**", the master action (the general switch-off or the courtesy switch-on).

- **General Switch-Off**.

  - **Delay** [*0…255*] [*x 1 s*]: defines a certain delay (once the trigger has been received) before the execution of the general switch-off. The allowed range is 0 to 255 seconds.

  - **Binary Value** [*disabled/enabled*]: if checked, object "**[ML] General Switch-off: Binary Object**" will be enabled, which will send one "0" whenever the general switch-off takes off.

  - **Scaling** [*disabled/enabled*]: if checked, object "**[ML] General Switch-off: Scaling**" will be enabled, which will send a percentage value (configurable in **Value** [*0…100*]) whenever the general switch-off takes off.

  - **Scene** [*disabled/enabled*]: if checked, object "**[ML] General Switch-off: Scene**" will be enabled, which will send a scene run / save order (configurable in **Action** [*Run / Save*] and **Scene Number** [*1…64*]) whenever the general switch-off takes off

  - **HVAC** [*disabled/enabled*]: if checked, object "**[ML] General Switch-off: HVAC mode**" will be enabled, which will send an HVAC thermostat mode value (configurable in **Value** [*Auto / Comfort / Standby / Economy / Building Protection*) whenever the general switch-off takes off

  Note: *the above options are not mutually exclusive; it is possible to send values of different nature together*.

- **Courtesy Switch-On**:

  The parameters available here are entirely analogous to those already mentioned for General Switch-Off. However, in this case the names of the objects start with "**[ML] Courtesy Switch-On (…)**". On the other hand, sending **scene save orders** is not possible for the courtesy switch-on (only orders to play scenes are allowed).

  Note: *object "**[ML] Courtesy Switch-On: Binary Object**" sends the value "1" (when the courtesy switch-on takes place), in contrast to object "**[ML] General Switch-Off: Binary Object**", which sends the value "0" (during the general switch-off, as explained above)*.

2.9 LOGIC FUNCTIONS

This module makes it possible to perform numeric and binary operations to incoming values received from the KNX bus, and to send the results through other communication objects specifically enabled for this purpose.

ALLinBOX can implement **up to 20 different and independent functions**, each of them entirely customisable and consisting in **up to 4 consecutive operations each**.

The execution of each function can depend on a configurable **condition**, which will be evaluated every time the function is **triggered** through specific, parameterisable communication objects. The result after executing the operations of the function can also be evaluated according to certain **conditions** and afterwards sent (or not) to the KNX bus, which can be done every time the function is executed, periodically or only when the result differs from the last one.

Please refer to the "**Logic Functions**" user manual available under the ALLinBOX 1612 / 88 product section at the Zennio homepage (www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

2.10 SCENE TIMING

The scene timing allows **imposing delays over the scenes** of the outputs. These delays, defined in parameters, are applied on the execution of one or more scenes that may have been configured.

Please bear in mind that, as multiple delayed scenes can be configured for each individual output / shutter channel / fan coil module, in case of receiving an order to execute one of them when **a previous temporisation is still pending** for that output / channel / module, such temporisation will be interrupted and only the delay and the action of the new scene will be executed.

ETS PARAMETERISATION

Prior to setting the **scene timing**, it is necessary to have one or more scenes configured in some of the outputs. When entering the Configuration window under Scene Timing, all configured scenes will be listed, together with a few checkboxes to select which of them need to be temporised, as shown in Figure 13:

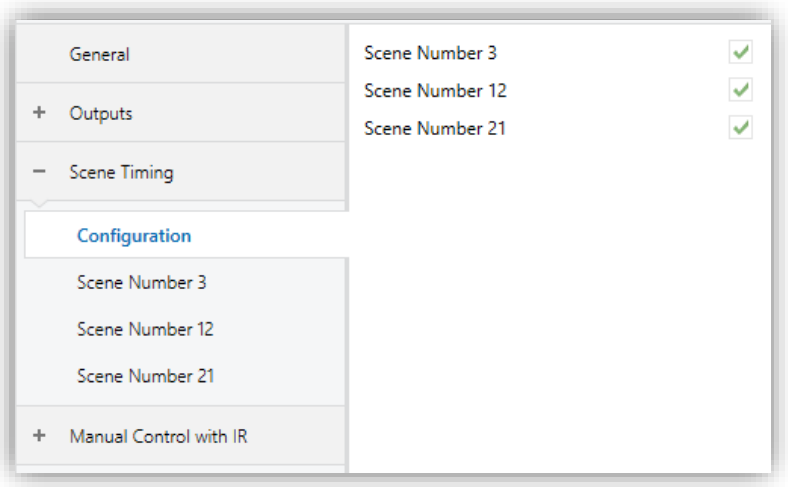


Figure 13. Scene Timing

Enabling a certain **Scene Number *n*** [*disabled*/*enabled*] brings a new tab with such name to the menu on the left, from which it is possible to configure the temporisation of that scene for each of the outputs where it has been configured.

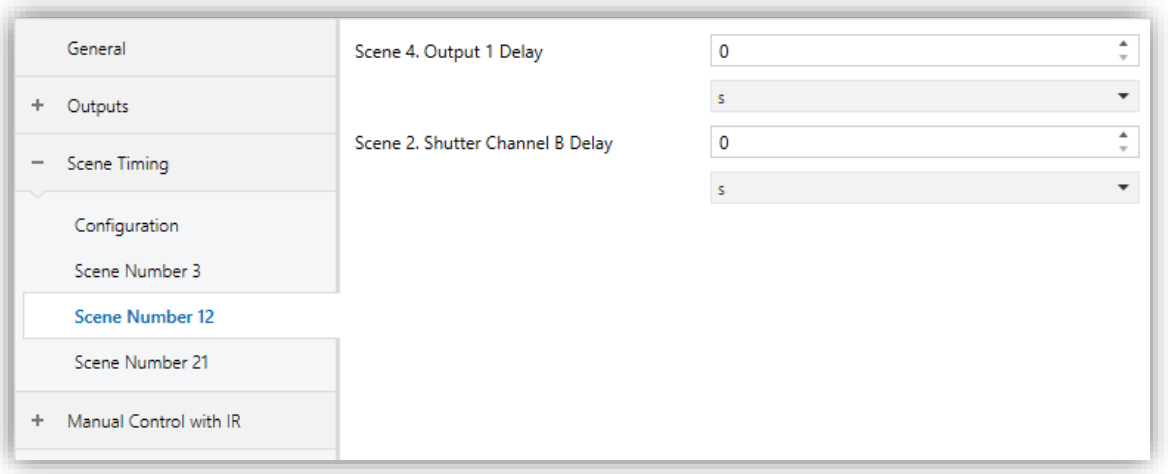


Figure 14. Configuring Scene Timing

Therefore, parameter **Scene *n*. Z Delay** [*0…3600*][*s*] [*0…1440*][*min*] [*0…24*][*h*] defines the delay that will be applied to the action defined in Z (being Z a specific individual output, shutter channel or fan coil module) for the execution of scene m.

Note: *In the configuration of a scene of an output / shutter channel / fan coil module it is possible to parameterize several scenes with the same scene number. This means that several delay parameters associated with the same output appear in the configuration tab of the delays of that scene. With this parameterization, the behaviour will be as follows: the action and delay of the first scene parameterized with the same scene number will always prevail, where the highest priority scene is 1 (the first in the scene configuration tab) and the lowest priority is the last.*

2.11 MANUAL CONTROL THROUGH IR REMOTE CONTROL

ALLinBOX allows manually switching the state of its output relays through the pushbuttons of an IR remote control. A specific pushbutton on the IR remote control is therefore available per output.

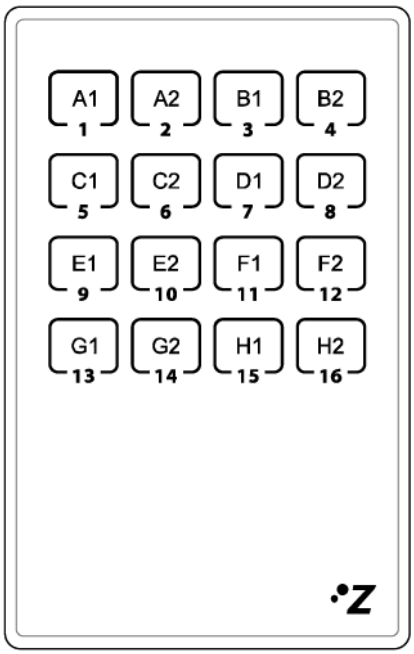


Figure 155. IR Remote Control

Manual operation has the mode, named as **Test On Mode** (for testing purposes during the configuration of the device). From ETS it will be possible to configure if the manual control will be available. Moreover, it is possible to enable a specific binary object for locking and unlocking the manual control in runtime.

Note:

- *Switching to the **Test On mode** (unless disabled by parameter) needs to be done by long-pressing the Prog/Test button (for at least three seconds), until the LED is no longer red and turns yellow. From that moment, once the button is released, the LED light will remain green to confirm that the device is in Test On mode. After that, an additional press will turn the LED yellow and then off, once the button is released. This way, the device leaves the Test On mode. Note that it will also leave this mode if a bus power failure takes place*.

Test On Mode

After entering the Test On mode, it will only be possible to control the outputs through the IR remote control pushbuttons. Orders received through communication objects will be ignored, with independence of the channel or the output they are addressed to.

Depending on whether the output has been parameterised as an individual output or as part of a shutter channel or a *fan coil* module, the reactions to the button presses will differ.

- **Individual output**: short or long pressing the button will commute the on-off state of the relay.

- **Shutter channel**: pressing the button will make the shutter drive move upward or downward (depending on the button) until the button is released again, thus ignoring the position of the shutter and the parameterised times.

  Note: *after leaving the Test On mode, the status objects will recover the values they had prior to entering Test On. As the device is never aware of the actual position of the shutter (as the shutter drive does not provide any feedback), these values may not show the real position. This can be solved by performing a complete move-up or move-down order, or by calibrating the shutter position in the Test On mode until it matches the status objects.*

- **Fan Coil module**: the behaviour will be different for the buttons identified as fan and the identified as valve (see Table 1):

  - **Fan**: a short or long press will switch the relays to set the selected speed, unless it matches the current speed – in such case all the relays will be opened (speed 0).

    Note: *the behaviour of the relays will depend on the parameterisation, i.e., on the **number of fan speeds**, on the **delay** between switches and on whether the control type is **accumulation** or **switching**.*

  - **Valve**: a short or long press will switch the current status of the relay and therefore of the valve.

- **Disabled output**: short and long presses will switch the state of the corresponding relay. In case this consists in closing the relay, then the remaining relays of its block will open, for safety reasons.

As described previously if the device is in Test On mode, any command sent from the KNX bus to the actuator will not affect the outputs and no status objects will be sent (only periodically timed objects such as Heartbeat or logic functions will continue to be sent to the bus) while Test ON mode is active. However, in the case of the "Alarm" and "Block" objects, although in Test ON mode the actions received by each object are not taken into account, the evaluation of their status is carried out when exiting this mode, so that any change in the alarm status or blocking of the outputs while Test ON mode is active is taken into account when exiting this mode and is updated with the last status detected.

Important: *the device is factory delivered from factory with all the output disabled, and with manual control Test On mode enabled*.

ETS PARAMETERISATION

After enabling "**Manual Control with IR**" (enabled by default) in the General screen (see section 2.4), a new tab will be incorporated into the tree on the left.

The only two parameters are:

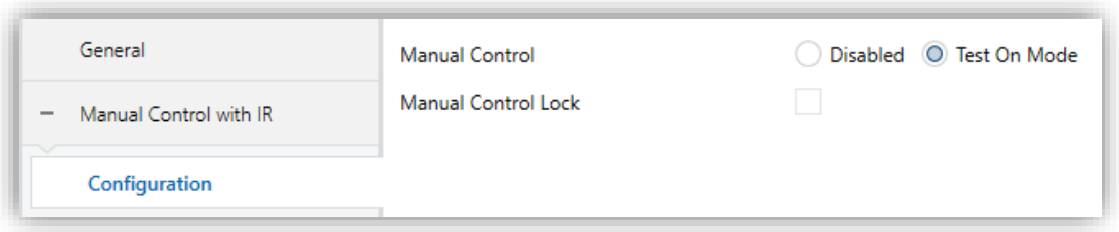


Figure 16. Manual Control

- **Manual Control** [*Disabled / Test On Mode*]: depending on the selection, the device will permit using the manual control under the Test On or have it disabled. Note that, as stated before, using Test On mode does require long-pressing the Prog/Test button.

- **Manual Lock Control** [*disabled/enabled*]: unless the above parameter has been "Disabled", the Lock Manual Control parameter provides an optional

procedure for locking the manual control in runtime. When this checkbox is enabled, object "**Manual Control Lock**" turns visible, as well as two more parameters:

- **Value** [*0 = Lock; 1 = Unlock* / *0 = Unlock; 1 = Lock*]: defines whether the manual control lock/unlock should take place respectively upon the reception (through the aforementioned object) of values "0" and "1", or the opposite.

- **Initialization** [*Unlocked* / *Locked* / *Last Value*]: sets how the manual control should remain after the device start-up (after an ETS download or a bus power failure). If "Last Value" is selected, on the very first start-up, this will be "Unlocked").

ANNEX I. COMMUNICATION OBJECTS

- **"Functional range**" shows the values that, with independence of any other values permitted by the bus according to the object size, may be of any use or have a particular meaning because of the specifications or restrictions from both the KNX standard or the application program itself.

Note: *some of the numbers in the first column are only applicable to ALLinBOX 1612*.

Number	Size	I/O	Flags	Data type (DPT)	Functional Range	Name	Function
1	1 Bit		C - - T -	DPT_Trigger	0/1	Reset 0	Voltage Recovery -> Sending of 0
2	1 Bit		C - - T -	DPT_Trigger	0/1	Reset 1	Voltage Recovery -> Sending of 1
3	1 Bit	I	C - W - -	DPT_Enable	0/1	Lock Manual Control	0 = Lock; 1 = Unlock
	1 Bit	I	C - W - -	DPT_Enable	0/1	Lock Manual Control	0 = Unlock; 1 = Lock
4	1 Bit		C - - T -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
5, 16, 27, 38, 49, 60, 71, 82, 93, 104, 115, 126, 137, 148, 159, 170	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Ox] Scenes	0 – 63 (Execute 1 – 64); 128 – 191 (Save 1 – 64)
6, 17, 28, 39, 50, 61, 72, 83, 94, 105, 116, 127, 138, 149, 160, 171	1 Bit	I	C - W - -	DPT_BinaryValue	0/1	[Ox] On/Off	N.O. (0=Open Relay; 1=Close Relay)
	1 Bit	I	C - W - -	DPT_BinaryValue	0/1	[Ox] On/Off	N.C. (0=Close Relay; 1= Open Relay)
7, 18, 29, 40, 51, 62, 73, 84, 95, 106, 117, 128, 139, 150, 161, 172	1 Bit	O	C R - T -	DPT_BinaryValue	0/1	[Ox] On/Off (Status)	0=Output Off; 1=Output On
8, 19, 30, 41, 52, 63, 74, 85, 96, 107, 118, 129, 140, 151, 162, 173	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ox] Lock	0=Unlock; 1=Lock
9, 20, 31, 42, 53, 64, 75, 86, 97, 108, 119, 130, 141, 152, 163, 174	1 Bit	I	C - W - -	DPT_Start	0/1	[Ox] Timer	0=Switch Off; 1=Switch On
10, 21, 32, 43, 54, 65, 76, 87, 98, 109, 120, 131, 142, 153, 164, 175	1 Bit	I	C - W - -	DPT_Start	0/1	[Ox] Flashing	0=Stop; 1=Start
11, 22, 33, 44, 55, 66, 77, 88, 99, 110, 121, 132, 143, 154, 165, 176	1 Bit	I	C - W - -	DPT_Alarm	0/1	[Ox] Alarm	0=Normal; 1=Alarm
	1 Bit	I	C - W - -	DPT_Alarm	0/1	[Ox] Alarm	0=Alarm; 1=Normal
12, 23, 34, 45, 56, 67, 78, 89, 100, 111, 122,	1 Bit	I	C - W - -	DPT_Ack	0/1	[Ox] Unfreeze Alarm	Alarm=0 + Unfreeze=1 => End Alarm

133, 144, 155, 166, 177							
13, 24, 35, 46, 57, 68, 79, 90, 101, 112, 123, 134, 145, 156, 167, 178	1 Bit	O	C R - T -	DPT_State	0/1	[Ox] Warning Time (Status)	0=Normal; 1=Warning
14, 25, 36, 47, 58, 69, 80, 91, 102, 113, 124, 135, 146, 157, 168, 179	4 Bytes	I/O	C R W T -	DPT_LongDeltaTimeSec	-2147483648 - 2147483647	[Ox] Operating Time (s)	Time in Seconds
15, 26, 37, 48, 59, 70, 81, 92, 103, 114, 125, 136, 147, 158, 169, 180	2 Bytes	I/O	C R W T -	DPT_TimePeriodHrs	0 - 65535	[Ox] Operating Time (h)	Time in Hours
181	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Shutter] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
182, 210, 238, 266, 294, 322, 350, 378	1 Bit	I	C - W - -	DPT_UpDown	0/1	[Cx] Move	0=Raise; 1=Lower
183, 211, 239, 267, 295, 323, 351, 379	1 Bit	I	C - W - -	DPT_Step	0/1	[Cx] Stop/Step	0=Stop/StepUp; 1=Stop/StepDown
	1 Bit	I	C - W - -	DPT_Trigger	0/1	[Cx] Stop	0=Stop; 1=Stop
184, 212, 240, 268, 296, 324, 352, 380	1 Bit	I	C - W - -	DPT_Enable	0/1	[Cx] Lock	0=Unlock; 1=Lock
185, 213, 241, 269, 297, 325, 353, 381	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Cx] Shutter Positioning	0%=Top; 100%=Bottom
186, 214, 242, 270, 298, 326, 354, 382	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Cx] Shutter Position (Status)	0%=Top; 100%=Bottom
187, 215, 243, 271, 299, 327, 355, 383	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Cx] Slats Positioning	0%=Open; 100%=Closed
188, 216, 244, 272, 300, 328, 356, 384	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Cx] Slats Position (Status)	0%=Open; 100%=Closed
189, 217, 245, 273, 301, 329, 357, 385	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx] Rising Relay (Status)	0=Open; 1=Closed
190, 218, 246, 274, 302, 330, 358, 386	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx] Lowering Relay (Status)	0=Open; 1=Closed
191, 219, 247, 275, 303, 331, 359, 387	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx] Movement (Status)	0=Stopped; 1=Moving
192, 220, 248, 276, 304, 332, 360, 388	1 Bit	O	C R - T -	DPT_UpDown	0/1	[Cx] Movement Direction (Status)	0=Upward; 1=Downward
193, 221, 249, 277, 305, 333, 361, 389	1 Bit	I	C - W - -	DPT_Switch	0/1	[Cx] Auto: On/Off	0=On; 1=Off
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Cx] Auto: On/Off	0=Off; 1=On
194, 222, 250, 278, 306, 334, 362, 390	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx] Auto: On/Off (Status)	0=On; 1=Off
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx] Auto: On/Off (Status)	0=Off; 1=On
195, 223, 251, 279, 307, 335, 363, 391	1 Bit	I	C - W - -	DPT_UpDown	0/1	[Cx] Auto: Move	0=Raise; 1=Lower
196, 224, 252, 280, 308,	1 Bit	I	C - W - -	DPT_Step	0/1	[Cx] Auto: Stop/Step	0=Stop/StepUp; 1=Stop/StepDown

336, 364, 392	1 Bit	I	C - W - -	DPT_Step	0/1	[Cx] Auto: Stop	0=Stop; 1=Stop
197, 225, 253, 281, 309, 337, 365, 393	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Cx] Auto: Shutter Positioning	0%=Top; 100%=Bottom
198, 226, 254, 282, 310, 338, 366, 394	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Cx] Auto: Slats Positioning	0%=Open; 100%=Closed
199, 227, 255, 283, 311, 339, 367, 395	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[Cx] Sunshine/Shadow	0=Sunshine; 1=Shadow
	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[Cx] Sunshine/Shadow	0=Shadow; 1=Sunshine
200, 228, 256, 284, 312, 340, 368, 396	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[Cx] Cooling/Heating	0=Heating; 1=Cooling
	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[Cx] Cooling/Heating	0=Cooling; 1=Heating
201, 229, 257, 285, 313, 341, 369, 397	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[Cx] Presence/No Presence	0=Presence; 1=No Presence
	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[Cx] Presence/No Presence	0=No Presence; 1=Presence
202, 203, 230, 231, 258, 259, 286, 287, 314, 315, 342, 343, 370, 371, 398, 399	1 Bit	I	C - W - -	DPT_Alarm	0/1	[Cx] Alarm x	0=No Alarm; 1=Alarm
	1 Bit	I	C - W - -	DPT_Alarm	0/1	[Cx] Alarm x	0=Alarm; 1=No Alarm
204, 232, 260, 288, 316, 344, 372, 400	1 Bit	I	C - W - -	DPT_Ack	0/1	[Cx] Unfreeze Alarm	Alarm1=Alarm2=No Alarm + Unfreeze (1) => End Alarm
205, 233, 261, 289, 317, 345, 373, 401	1 Bit	I	C - W - -	DPT_Scene_AB	0/1	[Cx] Move (Reversed)	0=Lower; 1=Raise
206, 234, 262, 290, 318, 346, 374, 402	1 Bit	I	C - W - -	DPT_Ack	0/1	[Cx] Direct Positioning 1	0=No Action; 1=Go to Position
207, 235, 263, 291, 319, 347, 375, 403	1 Bit	I	C - W - -	DPT_Ack	0/1	[Cx] Direct Positioning 2	0=No Action; 1=Go to Position
208, 236, 264, 292, 320, 348, 376, 404	1 Bit	I	C - W - -	DPT_Ack	0/1	[Cx] Direct Positioning 1 (Save)	0=No Action; 1=Save Current Position
209, 237, 265, 293, 321, 349, 377, 405	1 Bit	I	C - W - -	DPT_Ack	0/1	[Cx] Direct Positioning 2 (Save)	0=No Action; 1=Save Current Position
406	1 Byte	I	C - W - U	DPT_SceneControl	0-63; 128-191	[Fan Coil] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
407, 440	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] On/Off	0 = Off; 1 = On
408, 441	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] On/Off (Status)	0 = Off; 1 = On
409, 442	1 Bit	I	C - W - U	DPT_Heat_Cool	0/1	[FCx] Mode	0 = Cool; 1 = Heat
410, 443	1 Bit	O	C R - T -	DPT_Heat_Cool	0/1	[FCx] Mode (Status)	0 = Cool; 1 = Heat
411, 444	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Fan: Manual/Automatic	0 = Automatic; 1 = Manual
	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Fan: Manual/Automatic	0 = Manual; 1 = Automatic
412, 445	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Manual/Automatic (Status)	0 = Automatic; 1 = Manual
	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Manual/Automatic (Status)	0 = Manual; 1 = Automatic
413, 446	1 Bit	I	C - W - U	DPT_Step	0/1	[FCx] Manual Fan: Step Control	0 = Down; 1 = Up
414, 447	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Manual Fan: Speed 0	0 = Off; 1 = On
415, 448	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Manual Fan: Speed 1	0 = Off; 1 = On

416, 449	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Manual Fan: Speed 2	0 = Off; 1 = On
417, 450	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Manual Fan: Speed 3	0 = Off; 1 = On
418, 451	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Speed 0 (Status)	0 = Off; 1 = On
419, 452	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Speed 1 (Status)	0 = Off; 1 = On
420, 453	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Speed 2 (Status)	0 = Off; 1 = On
421, 454	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Fan: Speed 3 (Status)	0 = Off; 1 = On
422, 455	1 Byte	I	C - W - U	DPT_Fan_Stage	0 - 255	[FCx] Manual Fan: Enumeration Control	S0 = 0; S1 = 1; S2 = 2; S3 = 3
	1 Byte	I	C - W - U	DPT_Fan_Stage	0 - 255	[FCx] Manual Fan: Enumeration Control	S0 = 0; S1 = 1; S2 = 2
	1 Byte	I	C - W - U	DPT_Fan_Stage	0 - 255	[FCx] Manual Fan: Enumeration Control	S0 = 0; S1 = 1
423, 456	1 Byte	O	C R - T -	DPT_Fan_Stage	0 - 255	[FCx] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1; S2 = 2; S3 = 3
	1 Byte	O	C R - T -	DPT_Fan_Stage	0 - 255	[FCx] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1; S2 = 2
	1 Byte	O	C R - T -	DPT_Fan_Stage	0 - 255	[FCx] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1
424, 457	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Manual Fan: Percentage Control	S0 = 0%; S1 = 0,4-33,3%; S2 = 33,7-66,7%; S3 = 67,1-100%
	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Manual Fan: Percentage Control	S0 = 0%; S1 = 1-50%; S2 = 51-100%
	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Manual Fan: Percentage Control	S0 = 0%; S1 = 1-100%
425, 458	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 33,3%; S2 = 66,6%; S3 = 100%
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 1-50%; S2 = 51-100%
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 1-100%
426, 459	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Cooling Fan: Continuous Control	0 - 100%
	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Cooling Valve: PI Control (Continuous)	0 - 100%
427, 460	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Heating Fan: Continuous Control	0 - 100%
	1 Byte	I	C - W - U	DPT_Scaling	0% - 100%	[FCx] Heating Valve: PI Control (Continuous)	0 - 100%
428, 461	1 Bit	I	C - W - U	DPT_OpenClose	0/1	[FCx] Cooling Valve: Control Variable (1 bit)	0 = Open Valve; 1 = Close Valve
	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Cooling Valve: Control Variable (1 bit)	0 = Close Valve; 1 = Open Valve
429, 462	1 Bit	I	C - W - U	DPT_OpenClose	0/1	[FCx] Heating Valve: Control Variable (1 bit)	0 = Open Valve; 1 = Close Valve
	1 Bit	I	C - W - U	DPT_Switch	0/1	[FCx] Heating Valve: Control Variable (1 bit)	0 = Close Valve; 1 = Open Valve

430, 463	1 Bit	O	C R - T -	DPT_OpenClose	0/1	[FCx] Cooling Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Cooling Valve (Status)	0 = Closed; 1 = Open
	1 Bit	O	C R - T -	DPT_OpenClose	0/1	[FCx] Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Valve (Status)	0 = Closed; 1 = Open
431, 464	1 Bit	O	C R - T -	DPT_OpenClose	0/1	[FCx] Heating Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Heating Valve (Status)	0 = Closed; 1 = Open
432, 465	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Cooling Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
433, 466	1 Bit	O	C R - T -	DPT_Switch	0/1	[FCx] Heating Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
434, 467	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Valve (Status)	0 - 100%
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Cooling Valve (Status)	0 - 100%
435, 468	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[FCx] Heating Valve (Status)	0 - 100%
436, 469	1 Bit	O	C R - T -	DPT_Bool	0/1	[FCx] Control Value - Error	0 = No Error; 1 = Error
437, 470	2 Bytes	I	C - W - U	DPT_Value_Temp	-273.00º - 670433.28º	[FCx] Ambient Temperature	Ambient Temperature
438, 471	2 Bytes	I	C - W - U	DPT_Value_Temp	-273.00º - 670433.28º	[FCx] Setpoint Temperature	Setpoint Temperature
439, 472	2 Bytes	I/O	C R W T U	DPT_TimePeriodMin	0 - 65535	[FCx] Duration of Manual Control	0 = Endless; 1 - 1440 min
	2 Bytes	I/O	C R W T U	DPT_TimePeriodHrs	0 - 65535	[FCx] Duration of Manual Control	0 = Endless; 1 - 24 h
505, 511, 517, 523, 529, 535, 541, 547, 553, 559, 565, 571	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Input Lock	0 = Unlock; 1 = Lock
506, 512, 518, 524, 530, 536, 542, 548, 554, 560, 566, 572	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 0	Sending of 0
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Short Press] 0/1 Switching	Switching 0/1
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Shutter	Switching of 0/1 (Stop/Step Up/Down)

						(Switched)	
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Brighter	Increase Brightness
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Darker	Decrease Brightness
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Brighter/Darker	Switch Bright/Dark
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light On	Sending of 1 (On)
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light Off	Sending of 0 (Off)
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Short Press] Light On/Off	Switching 0/1
	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Run Scene	Sending of 0 - 63
	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Save Scene	Sending of 128 - 191
	1 Bit	I/O	C R W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] Edge	Sending of 0 or 1
	1 Byte		C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Short Press] Constant Value (Integer)	0 - 255
	1 Byte		C - - T -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Constant Value (Percentage)	0% - 100%
	2 Bytes		C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Short Press] Constant Value (Integer)	0 - 65535
	2 Bytes		C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Short Press] Constant Value (Float)	Float Value
507, 513, 519, 525, 531, 537, 543, 549, 555, 561, 567, 573	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Dimming Status	0% - 100%

						(Input)	
508, 514, 520, 526, 532, 538, 544, 550, 556, 562, 568, 574	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 0	Sending of 0
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Long Press] 0/1 Switching	Switching 0/1
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit		C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit		C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Long Press] Brighter	Long Pr. -> Brighter; Release -> Stop
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Long Press] Darker	Long Pr. -> Darker; Release -> Stop
	4 Bit		C - - T -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Long Press] Brighter/Darker	Long Pr. -> Brighter/Darker; Release -> Stop
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light On	Sending of 1 (On)
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light Off	Sending of 0 (Off)
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Long Press] Light On/Off	Switching 0/1
	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Run Scene	Sending of 0 - 63

	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Save Scene	Sending of 128 - 191
	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] [Switch/Sensor] Alarm: Breakdown or Sabotage	1 = Alarm; 0 = No Alarm
	2 Bytes		C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Long Press] Constant Value (Float)	Float Value
	2 Bytes		C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Long Press] Constant Value (Integer)	0 - 65535
	1 Byte		C - - T -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Constant Value (Percentage)	0% - 100%
	1 Byte		C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Long Press] Constant Value (Integer)	0 - 255
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 0	Sending of 0
	1 Bit		C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 1	Sending of 1
509, 515, 521, 527, 533, 539, 545, 551, 557, 563, 569, 575	1 Bit		C - - T -	DPT_Trigger	0/1	[Ix] [Long Press/Release] Stop Shutter	Release -> Stop Shutter
510, 516, 522, 528, 534, 540, 546, 552, 558, 564, 570, 576	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Shutter Status (Input)	0% = Top; 100% = Bottom
577	1 Byte	I	C - W - -	DPT_SceneNumber	0 - 63	[Motion Detector] Scene Input	Scene Value
578	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[Motion Detector] Scene Output	Scene Value
579, 608, 637, 666, 695, 724, 753, 782, 811, 840, 869, 898	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Luminosity	0-100%
580, 609, 638, 667, 696, 725, 754, 783, 812, 841, 870, 899	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Open Circuit Error	0 = No Error; 1 = Open Circuit Error
581, 610, 639, 668, 697, 726, 755, 784, 813, 842, 871, 900	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Short Circuit Error	0 = No Error; 1 = Short Circuit Error
582, 611, 640, 669, 698, 727, 756, 785, 814, 843, 872, 901	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Presence State (Scaling)	0-100%
583, 612, 641, 670, 699, 728, 757, 786, 815, 844, 873, 902	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] Presence State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
584, 613, 642, 671, 700, 729, 758, 787, 816, 845,	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix] Presence State (Binary)	Binary Value
	1 Bit	O	C R - T -	DPT_Ack	0/1	[Ix] Presence: Slave Output	1 = Motion Detected

874, 903							
585, 614, 643, 672, 701, 730, 759, 788, 817, 846, 875, 904	1 Bit	I	**C - W - -**	DPT_Window_Door	0/1	[Ix] Presence Trigger	Binary Value to Trigger the Presence Detection
586, 615, 644, 673, 702, 731, 760, 789, 818, 847, 876, 905	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Ix] Presence: Slave Input	0 = Nothing; 1 = Detection from slave device
587, 616, 645, 674, 703, 732, 761, 790, 819, 848, 877, 906	2 Bytes	I	**C - W - -**	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Waiting Time	0-65535 s.
588, 617, 646, 675, 704, 733, 762, 791, 820, 849, 878, 907	2 Bytes	I	**C - W - -**	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Listening Time	1-65535 s.
589, 618, 647, 676, 705, 734, 763, 792, 821, 850, 879, 908	1 Bit	I	**C - W - -**	DPT_Enable	0/1	[Ix] Presence: Enable	According to parameters
590, 619, 648, 677, 706, 735, 764, 793, 822, 851, 880, 909	1 Bit	I	**C - W - -**	DPT_DayNight	0/1	[Ix] Presence: Day/Night	According to parameters
591, 620, 649, 678, 707, 736, 765, 794, 823, 852, 881, 910	1 Bit	O	**C R - T -**	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State	0 = Not Occupied; 1 = Occupied
592, 621, 650, 679, 708, 737, 766, 795, 824, 853, 882, 911	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Ix] External Motion Detection	0 = Nothing; 1 = Motion detected by an external sensor
593, 598, 603, 622, 627, 632, 651, 656, 661, 680, 685, 690, 709, 714, 719, 738, 743, 748, 767, 772, 777, 796, 801, 806, 825, 830, 835, 854, 859, 864, 883, 888, 893, 912, 917, 922	1 Byte	O	**C R - T -**	DPT_Scaling	0% - 100%	[Ix] [Cx] Detection State (Scaling)	0-100%
594, 599, 604, 623, 628, 633, 652, 657, 662, 681, 686, 691, 710, 715, 720, 739, 744, 749, 768, 773, 778, 797, 802, 807, 826, 831, 836, 855, 860, 865, 884, 889, 894, 913, 918, 923	1 Byte	O	**C R - T -**	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] [Cx] Detection State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
595, 600, 605, 624, 629, 634, 653, 658, 663, 682,	1 Bit	O	**C R - T -**	DPT_Switch	0/1	[Ix] [Cx] Detection State (Binary)	Binary Value

687, 692, 711, 716, 721, 740, 745, 750, 769, 774, 779, 798, 803, 808, 827, 832, 837, 856, 861, 866, 885, 890, 895, 914, 919, 924							
596, 601, 606, 625, 630, 635, 654, 659, 664, 683, 688, 693, 712, 717, 722, 741, 746, 751, 770, 775, 780, 799, 804, 809, 828, 833, 838, 857, 862, 867, 886, 891, 896, 915, 920, 925	1 Bit	I	**C - W - -**	DPT_Enable	0/1	[Ix] [Cx] Enable Channel	According to parameters
597, 602, 607, 626, 631, 636, 655, 660, 665, 684, 689, 694, 713, 718, 723, 742, 747, 752, 771, 776, 781, 800, 805, 810, 829, 834, 839, 858, 863, 868, 887, 892, 897, 916, 921, 926	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Ix] [Cx] Force State	0 = No Detection; 1 = Detection
927, 931, 935, 939, 943, 947, 951, 955, 959, 963, 967, 971	2 Bytes	O	**C R - T -**	DPT_Value_Temp	-273.00º - 670433.28º	[Ix] Current Temperature	Temperature Sensor Value
928, 932, 936, 940, 944, 948, 952, 956, 960, 964, 968, 972	1 Bit	O	**C R - T -**	DPT_Alarm	0/1	[Ix] Overcooling	0 = No Alarm; 1 = Alarm
929, 933, 937, 941, 945, 949, 953, 957, 961, 965, 969, 973	1 Bit	O	**C R - T -**	DPT_Alarm	0/1	[Ix] Overheating	0 = No Alarm; 1 = Alarm
930, 934, 938, 942, 946, 950, 954, 958, 962, 966, 970, 974	1 Bit	O	**C R - T -**	DPT_Alarm	0/1	[Ix] Probe Error	0 = No Alarm; 1 = Alarm
975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019,	1 Bit	I	**C - W - -**	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)

1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038							
1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070	1 Byte	I	**C - W - -**	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102	2 Bytes	I	**C - W - -**	1.xxx	0/1	[LF] (2-Byte) Data Entry x	2-Byte Data Entry
1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118	4 Bytes	I	**C - W - -**	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138	1 Bit	O	**C R - T -**	DPT_Bool	0/1	[LF] Function x - Result	(1-Bit) Boolean
	1 Byte	O	**C R - T -**	DPT_Value_1_Ucount	0 - 255	[LF] Function x - Result	(1-Byte) Unsigned
	2 Bytes	O	**C R - T -**	DPT_Value_2_Ucount	0 - 65535	[LF] Function x - Result	(2-Byte) Unsigned
	4 Bytes	O	**C R - T -**	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] Function x - Result	(4-Byte) Signed
	1 Byte	O	**C R - T -**	DPT_Scaling	0% - 100%	[LF] Function x - Result	(1-Byte) Percentage
	2 Bytes	O	**C R - T -**	DPT_Value_2_Count	-32768 - 32767	[LF] Function x - Result	(2-Byte) Signed
	2 Bytes	O	**C R - T -**	9.xxx	-671088.64 - 670433.28	[LF] Function x - Result	(2-Byte) Float
1139, 1161	1 Bit	I	**C - W - -**	DPT_Trigger	0/1	[MLx] Trigger	Trigger the Master Light Function
1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169,	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[MLx] Status Object x	Binary Status

1170, 1171, 1172, 1173							
1152, 1174	1 Bit	O	C R - T -	DPT_Switch	0/1	[MLx] General Status	Binary Status
1153, 1175	1 Bit		C - - T -	DPT_Switch	0/1	[MLx] General Switch Off: Binary Object	Switch Off Sending
1154, 1176	1 Byte		C - - T -	DPT_Scaling	0% - 100%	[MLx] General Switch Off: Scaling	0-100%
1155, 1177	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[MLx] General Switch Off: Scene	Scene Sending
1156, 1178	1 Byte		C - - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[MLx] General Switch Off: HVAC mode	Auto, Comfort, Standby, Economy, Building Protection
1157, 1179	1 Bit		C - - T -	DPT_Switch	0/1	[MLx] Courtesy Switch On: Binary Object	Switch On Sending
1158, 1180	1 Byte		C - - T -	DPT_Scaling	0% - 100%	[MLx] Courtesy Switch On: Scaling	0-100%
1159, 1181	1 Byte		C - - T -	DPT_SceneControl	0-63; 128-191	[MLx] Courtesy Switch On: Scene	Scene Sending
1160, 1182	1 Byte		C - - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[MLx] Courtesy Switch On: HVAC mode	Auto, Comfort, Standby, Economy, Building Protection
1183, 1251, 1319, 1387	1 Bit	I	C - W - -	DPT_Switch	0/1	[HTx] [A] On/Off	0 = Off; 1 = On
1184, 1252, 1320, 1388	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [A] On/Off Status	0 = Off; 1 = On
1185, 1253, 1321, 1389	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[HTx] [A] Scene Input	Scene Value
1186, 1254, 1322, 1390	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [A] Temperature Source 1	External Sensor Temperature
1187, 1255, 1323, 1391	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [A] Temperature Source 2	External Sensor Temperature
1188, 1256, 1324, 1392	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [A] Room Temperature	Current Temperature
1189, 1257, 1325, 1393	1 Bit	I/O	C R W - -	DPT_Heat_Cool	0/1	[HTx] [A] System Mode	0 = Cooling; 1 = Heating
1190, 1258, 1326, 1394	1 Bit	I/O	C R W - -	DPT_Heat_Cool	0/1	[HTx] [A] User Mode	0 = Cooling; 1 = Heating
1191, 1259, 1327, 1395	1 Bit	I/O	C R W - -	DPT_Switch	0/1	[HTx] [A] Force System Mode	0 = User Mode / Auto Change; 1 = System Mode
1192, 1260, 1328, 1396	1 Bit	O	C R - T -	DPT_Heat_Cool	0/1	[HTx] [A] Mode Status	0 = Cooling; 1 = Heating
1193, 1261, 1329, 1397	1 Byte	I	C - W T U	DPT_Scaling	0% - 100%	[HTx] [A] Fan Speed	0% - 100%
1194, 1262, 1330, 1398	1 Bit	I	C - W T U	DPT_Switch	0/1	[HTx] [A] Fan: Manual/Automatic	0 = Manual; 1 = Automatic
	1 Bit	I	C - W T U	DPT_Switch	0/1	[HTx] [A] Fan: Manual/Automatic	0 = Automatic; 1 = Manual
1195, 1263, 1331, 1399	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [A] On/Off Fancoil	0 = Off; 1 = On
1196, 1264, 1332, 1400	1 Bit	I	C - W - -	DPT_Reset	0/1	[HTx] [B] User Comfort Setpoint Reset	0 = Nothing; 1 = Reset
1197, 1265, 1333, 1401	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] User Setpoint Control	[-20°C, 100°C]

	2 Bytes	I	C - W T U	DPT_Value_Tempd	-670760.00º - 670433.28º	[HTx] [B] User Setpoint Offset	[-15ºC, 15ºC]
1198, 1266, 1334, 1402	1 Bit	I	C - W - -	DPT_Step	0/1	[HTx] [B] Step User Setpoint	0 = Decrease; 1 = Increase
1199, 1267, 1335, 1403	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Comfort Setpoint (Cooling)	[-20ºC, 100ºC]
	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Comfort Setpoint	[-20ºC, 100ºC]
1200, 1268, 1336, 1404	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Standby Setpoint (Cooling)	[-20ºC, 100ºC]
1201, 1269, 1337, 1405	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Economy Setpoint (Cooling)	[-20ºC, 100ºC]
1202, 1270, 1338, 1406	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Protection Setpoint (Cooling)	[-20ºC, 100ºC]
1203, 1271, 1339, 1407	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Comfort Setpoint (Heating)	[-20ºC, 100ºC]
1204, 1272, 1340, 1408	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Standby Setpoint (Heating)	[-20ºC, 100ºC]
1205, 1273, 1341, 1409	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Economy Setpoint (Heating)	[-20ºC, 100ºC]
1206, 1274, 1342, 1410	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Protection Setpoint (Heating)	[-20ºC, 100ºC]
1207, 1275, 1343, 1411	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] Real Setpoint Status	[-20ºC, 100ºC]
1208, 1276, 1344, 1412	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [B] User Setpoint Status	[-20ºC, 100ºC]
	2 Bytes	O	C R - T -	DPT_Value_Tempd	-670760.00º - 670433.28º	[HTx] [B] User Setpoint Offset Status	[-15ºC, 15ºC]
1209, 1277, 1345, 1413	2 Bytes	I/O	C R W T U	DPT_TimePeriodSec	0 - 65535	[HTx] [C] Transition Time: Comfort to Default Mode	Seconds (0 = Disabled)
	2 Bytes	I/O	C R W T U	DPT_TimePeriodMin	0 - 65535	[HTx] [C] Transition Time: Comfort to Default Mode	Minutes (0 = Disabled)
	2 Bytes	I/O	C R W T U	DPT_TimePeriodHrs	0 - 65535	[HTx] [C] Transition Time: Comfort to Default Mode	Hours (0 = Disabled)
1210, 1278, 1346, 1414	2 Bytes	I/O	C R W T U	DPT_TimePeriodSec	0 - 65535	[HTx] [C] Transition Time: Standby to Economy	Seconds (0 = Disabled)
	2 Bytes	I/O	C R W T U	DPT_TimePeriodMin	0 - 65535	[HTx] [C] Transition Time: Standby to Economy	Minutes (0 = Disabled)
	2 Bytes	I/O	C R W T U	DPT_TimePeriodHrs	0 - 65535	[HTx] [C] Transition Time: Standby to Economy	Hours (0 = Disabled)
1211, 1279, 1347, 1415	2 Bytes	I/O	C R W T U	DPT_TimePeriodSec	0 - 65535	[HTx] [C] Comfort Setpoint Reset Time	Seconds (0 = Disabled)

	2 Bytes	I/O	C R W T U	DPT_TimePeriodMin	0 - 65535	[HTx] [C] Comfort Setpoint Reset Time	Minutes (0 = Disabled)
	2 Bytes	I/O	C R W T U	DPT_TimePeriodHrs	0 - 65535	[HTx] [C] Comfort Setpoint Reset Time	Hours (0 = Disabled)
1212, 1280, 1348, 1416	1 Bit	I/O	C R W - -	DPT_Occupancy	0/1	[HTx] [C] Presence Detector (Input)	0 = Not Occupied; 1 = Occupied
1213, 1281, 1349, 1417	1 Bit	I/O	C R W - -	DPT_Enable	0/1	[HTx] [C] Lock Presence Detection	0 = Unlocked; 1 = Locked
	1 Bit	I/O	C R W - -	DPT_Enable	0/1	[HTx] [C] Lock Presence Detection	0 = Locked; 1 = Unlocked
1214, 1282, 1350, 1418	1 Bit	I/O	C R W - -	DPT_Bool	0/1	[HTx] [C] Sold/Unsold Room (Input)	0 = Unsold; 1 = Sold
1215, 1283, 1351, 1419	1 Byte	I	C - W - -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[HTx] [D] Special Mode	1-byte HVAC Mode
1216, 1284, 1352, 1420	1 Bit	I	C - W - -	DPT_Ack	0/1	[HTx] [D] Special Mode: Comfort	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[HTx] [D] Special Mode: Comfort	0 = Off; 1 = On
1217, 1285, 1353, 1421	1 Bit	I	C - W - -	DPT_Ack	0/1	[HTx] [D] Special Mode: Standby	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[HTx] [D] Special Mode: Standby	0 = Off; 1 = On
1218, 1286, 1354, 1422	1 Bit	I	C - W - -	DPT_Ack	0/1	[HTx] [D] Special Mode: Economy	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[HTx] [D] Special Mode: Economy	0 = Off; 1 = On
1219, 1287, 1355, 1423	1 Bit	I	C - W - -	DPT_Ack	0/1	[HTx] [D] Special Mode: Protection	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[HTx] [D] Special Mode: Protection	0 = Off; 1 = On
1220, 1288, 1356, 1424	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[HTx] [D] Special Mode Status	1-byte HVAC Mode
1221, 1289, 1357, 1425	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [D] Comfort Mode Status	0 = Off; 1 = On
1222, 1290, 1358, 1426	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 1 (Input)	0 = Closed; 1 = Open
	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 1 (Input)	0 = Open; 1 = Closed
1223, 1291, 1359, 1427	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 2 (Input)	0 = Closed; 1 = Open
	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 2 (Input)	0 = Open; 1 = Closed
1224, 1292, 1360, 1428	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 3 (Input)	0 = Closed; 1 = Open
	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 3 (Input)	0 = Open; 1 = Closed
1225, 1293, 1361, 1429	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 4 (Input)	0 = Closed; 1 = Open
	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[HTx] [D] Window Status 4 (Input)	0 = Open; 1 = Closed
1226, 1294, 1362, 1430	1 Bit	I/O	C R W - -	DPT_Enable	0/1	[HTx] [D] Enable Window Status	0 = Disabled; 1 = Enabled
1227, 1295, 1363, 1431	1 Bit	I/O	C R W - -	DPT_Enable	0/1	[HTx] [D] Thermostat Lock	0 = Locked; 1 = Unlocked
	1 Bit	I/O	C R W - -	DPT_Enable	0/1	[HTx] [D] Thermostat Lock	0 = Unlocked; 1 = Locked
1228, 1296, 1364, 1432	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º -	[HTx] [D] Comfort Lower Limit	[-20°C, 100°C]

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1229, 1297, 1365, 1433	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [D] Comfort Upper Limit	[-20°C, 100°C]
1230, 1298, 1366, 1434	1 Bit	I/O	C R W - -	DPT_Switch	0/1	[HTx] [D] Hidden Offset On/Off	0 = Off; 1 = On
1231, 1299, 1367, 1435	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-670760.00º - 670433.28º	[HTx] [D] Hidden Offset Value	[-20°C, 100°C]
1232, 1300, 1368, 1436	1 Bit	O	C R - T -	DPT_Bool	0/1	[HTx] [D] Eco Mode Notification	0 = Out of eco range; 1 = Setpoint in Eco Range
1233, 1301, 1369, 1437	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[HTx] [D] Eco Mode Ratio	Percentage of Time Working in Eco Range
1234, 1302, 1370, 1438	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [D] Eco Mode: Lower Limit (Cooling)	Lower Value for the Ecological Range
1235, 1303, 1371, 1439	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [D] Eco Mode: Upper Limit (Heating)	Upper Value for the Ecological Range
1236, 1304, 1372, 1440	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[HTx] [D] Setpoint to Split	[-20°C, 100°C]
1237, 1305, 1373, 1441	2 Bytes	I	C - W - -	DPT_Value_Humidity	-12% - 12%	[HTx] [F] Current Humidity	Humidity Sensor Value
1238, 1306, 1374, 1442	2 Bytes	I/O	C R W T U	DPT_Value_Humidity	-12% - 12%	[HTx] [F] High Humidity Alarm Threshold	Value of High Humidity Alarm Threshold
1239, 1307, 1375, 1443	1 Bit	I/O	C R W T U	DPT_Enable	0/1	[HTx] [F] Dehumidification Control	0 = Disabled; 1 = Enabled
1240, 1308, 1376, 1444	1 Bit	O	C R - T -	DPT_Bool	0/1	[HTx] [F] Dehumidification Status	0 = No Dehumidifying; 1 = Dehumidifying
1241, 1309, 1377, 1445	1 Bit	O	C R - T -	DPT_Alarm	0/1	[HTx] [F] High Humidity	0 = No Alarm; 1 = Alarm
1242, 1310, 1378, 1446	1 Bit	I/O	C R W T U	DPT_Enable	0/1	[HTx] [F] Enable Apparent Temperature	0 = Room Temperature; 1 = Apparent Temperature
1243, 1311, 1379, 1447	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[HTx] [Cooling] Control Variable	PI Control (Continuous)
1244, 1312, 1380, 1448	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[HTx] [Heating] Control Variable	PI Control (Continuous)
1245, 1313, 1381, 1449	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Cooling] Control Variable	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Cooling] Control Variable	PI Control (PWM)
1246, 1314, 1382, 1450	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Heating] Control Variable	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Heating] Control Variable	PI Control (PWM)
1247, 1315, 1383, 1451	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Cooling] Additional Cool	Temp >= (Setpoint+Band) => "1"
1248, 1316, 1384, 1452	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Heating] Additional Heat	Temp <= (Setpoint-Band) => "1"
1249, 1317, 1385, 1453	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Cooling] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
1250, 1318, 1386, 1454	1 Bit	O	C R - T -	DPT_Switch	0/1	[HTx] [Heating] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
1455	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Thermostat] Scene Input	Scene Value
1456, 1494, 1532, 1570	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 1	External Sensor Temperature
1457, 1495, 1533, 1571	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 2	External Sensor Temperature
1458, 1496, 1534, 1572	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º -	[Tx] Effective Temperature	Effective Control Temperature

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1459, 1497, 1535, 1573	1 Byte	I	**C - W - -**	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode	1-Byte HVAC Mode
1460, 1498, 1536, 1574	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Tx] Special Mode: Comfort	0 = Nothing; 1 = Trigger
	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Tx] Special Mode: Comfort	0 = Off; 1 = On
1461, 1499, 1537, 1575	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Tx] Special Mode: Standby	0 = Nothing; 1 = Trigger
	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Tx] Special Mode: Standby	0 = Off; 1 = On
1462, 1500, 1538, 1576	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Tx] Special Mode: Economy	0 = Nothing; 1 = Trigger
	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Tx] Special Mode: Economy	0 = Off; 1 = On
1463, 1501, 1539, 1577	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Tx] Special Mode: Protection	0 = Nothing; 1 = Trigger
	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Tx] Special Mode: Protection	0 = Off; 1 = On
1464, 1502, 1540, 1578	1 Bit	I	**C - W - -**	DPT_Window_Door	0/1	[Tx] Window Status (Input)	0 = Closed; 1 = Open
1465, 1503, 1541, 1579	1 Bit	I	**C - W - -**	DPT_Ack	0/1	[Tx] Comfort Prolongation	0 = Nothing; 1 = Timed Comfort
1466, 1504, 1542, 1580	1 Byte	O	**C R - T -**	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode Status	1-Byte HVAC Mode
1467, 1505, 1543, 1581	2 Bytes	I	**C - W - -**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint	Thermostat Setpoint Input
	2 Bytes	I	**C - W - -**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint	Reference Setpoint
1468, 1506, 1544, 1582	1 Bit	I	**C - W - -**	DPT_Step	0/1	[Tx] Setpoint Step	0 = Decrease Setpoint; 1 = Increase Setpoint
1469, 1507, 1545, 1583	2 Bytes	I	**C - W - -**	DPT_Value_Tempd	-670760.00º - 670433.28º	[Tx] Setpoint Offset	Float Offset Value
1470, 1508, 1546, 1584	2 Bytes	O	**C R - T -**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint Status	Current Setpoint
1471, 1509, 1547, 1585	2 Bytes	O	**C R - T -**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint Status	Current Basic Setpoint
1472, 1510, 1548, 1586	2 Bytes	O	**C R - T -**	DPT_Value_Tempd	-670760.00º - 670433.28º	[Tx] Setpoint Offset Status	Current Setpoint Offset
1473, 1511, 1549, 1587	1 Bit	I	**C - W - -**	DPT_Reset	0/1	[Tx] Setpoint Reset	Reset Setpoint to Default
	1 Bit	I	**C - W - -**	DPT_Reset	0/1	[Tx] Offset Reset	Reset Offset
1474, 1512, 1550, 1588	1 Bit	I	**C - W - -**	DPT_Heat_Cool	0/1	[Tx] Mode	0 = Cool; 1 = Heat
1475, 1513, 1551, 1589	1 Bit	O	**C R - T -**	DPT_Heat_Cool	0/1	[Tx] Mode Status	0 = Cool; 1 = Heat
1476, 1514, 1552, 1590	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Tx] On/Off	0 = Off; 1 = On
1477, 1515, 1553, 1591	1 Bit	O	**C R - T -**	DPT_Switch	0/1	[Tx] On/Off Status	0 = Off; 1 = On

1478, 1516, 1554, 1592	1 Bit	I/O	C R W - -	DPT_Switch	0/1	[Tx] Main System (Cool)	0 = System 1; 1 = System 2
1479, 1517, 1555, 1593	1 Bit	I/O	C R W - -	DPT_Switch	0/1	[Tx] Main System (Heat)	0 = System 1; 1 = System 2
1480, 1518, 1556, 1594	1 Bit	I	C - W - -	DPT_Enable	0/1	[Tx] Enable/Disable Secondary System (Cool)	0 = Disable; 1 = Enable
1481, 1519, 1557, 1595	1 Bit	I	C - W - -	DPT_Enable	0/1	[Tx] Enable/Disable Secondary System (Heat)	0 = Disable; 1 = Enable
1482, 1488, 1520, 1526, 1558, 1564, 1596, 1602	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Cool)	PI Control (Continuous)
1483, 1489, 1521, 1527, 1559, 1565, 1597, 1603	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Heat)	PI Control (Continuous)
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable	PI Control (Continuous)
1484, 1490, 1522, 1528, 1560, 1566, 1598, 1604	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	PI Control (PWM)
1485, 1491, 1523, 1529, 1561, 1567, 1599, 1605	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	PI Control (PWM)
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	PI Control (PWM)
1486, 1492, 1524, 1530, 1562, 1568, 1600, 1606	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Cool)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
1487, 1493, 1525, 1531, 1563, 1569, 1601, 1607	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Heat)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%

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