

# MINiBOX 25 / MINiBOX 45 

## Multifunction Actuator with 2 or 4 Outputs and 5 Inputs

## ZIO-MN25 <br> ZIO-MN45

## CONTENTS

Contents ..... 2
Document Updates ..... 3
1 Introduction ..... 4
1.1 MINiBOX 25 and MINiBOX 45 ..... 4
1.2 Installation ..... 5
1.3 Start-Up and Power Loss ..... 6
2 Configuration ..... 7
2.1 General ..... 7
2.2 Inputs ..... 9
2.2.1 Binary Input ..... 9
2.2.2 Temperature Probe ..... 10
2.2.3 Motion Detector ..... 10
2.3 Outputs ..... 11
2.3.1 Manual Control ..... 11
2.4 Logic Functions ..... 15
2.5 Thermostats ..... 16
2.6 Master Light ..... 17
2.7 Scene Temporisation ..... 20
ANNEX I. Communication Objects. ..... 22

## DOCUMENT UPDATES

| Version | Changes | Page(s) |
| :---: | :---: | :---: |
| [1.4]_a | Changes in the application program: <br> - Optimisation of the individual outputs, thermostat, shutter channel, inputs, Heartbeat, motion detector and logic function modules. | - |
|  | Minor texts changes. | - |
| [1.3]_a | Changes in the application program: <br> - Update of the thermostat, motion detector and logic functions modules. <br> - New general status object in the Master Light module. | - |
| [1.2]_a | Changes in the application program: <br> - Heartbeat functionality added. <br> - Optimisation of the motion detector and thermostat modules. | - |

## 1 INTRODUCTION

### 1.1 MINIBOX 25 AND MINIBOX 45

MINiBOX 25 and MINiBOX 45 from Zennio are two versatile KNX actuators featuring a wide variety of functions, being both of them entirely equivalent except for the number of individual binary outputs available (two in MINiBOX 25 and four in MINiBOX 45).

The most outstanding features are:

- 2 or 4 relay outputs, configurable as:


## MINiBOX 25:

- Up to 1 shutter channel (with or without slats),
- Up to 2 individual ON/OFF outputs.


## MINiBOX 45 :

- Up to 2 independent shutter channels (with or without slats),
- Up to 4 individual ON/OFF outputs,
- A combination of the above.
- 5 multi-purpose inputs, configurable as:
- Temperature probes,
- Binary inputs (i.e., pushbuttons, switches, sensors),
- Motion detectors.
- 10 customisable, multi-operation logic functions.
- 4 independent thermostats.
- Scene-triggered action control, with an optional delay in the execution.
- Master light control 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 2 or 4 relay outputs through the onboard pushbuttons and LEDs.
- Heartbeat or periodical "still-alive" notification.


### 1.2 INSTALLATION

MINiBOX 25 / 45 connects to the KNX bus through the on-board KNX connector.

Once the device is provided with power from the KNX bus, both the individual address and the associated application program may be downloaded.

This device does not need any additional external power since it is entirely powered through the KNX bus.


1. Output Control Pushbutton.
2. Output LED Indicator.
3. Analogue-Digital Inputs
4. KNX Bus Connector.
5. Prog./Test LED.
6. Prog./Test Pushbutton.
7. Relay Outputs.

Figure 1. MINiBOX 45. Elements
Note: the above element diagram is slightly different for MINiBOX 25, although entirely analogous.

The main elements of the device are described next.

- Test/Prog. Pushbutton (6): a short press on this button sets the device into the programming mode, making the associated LED (5) 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 (7): output ports for the insertion of the stripped cables of the systems being controlled by the actuator (see section 2.3). Please secure the connection by means of the on-board screws.
- Inputs (3): 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 needs to be connected to one of the slots labelled " 1 " to " 6 ", 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 onboard screws.

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 the device 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, the device 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 will switch to the specific state configured in ETS (if any).

## 2 CONFIGURATION

### 2.1 GENERAL

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

## ETS PARAMETERISATION

The only parameterisable screen that is always available is General. From this screen it is possible to activate/deactivate all the required functionality.


Figure 2. Default screen

- Once activated, Inputs, Outputs, Logic Functions, Thermostats, Master Light, Scene Temporisation and Manual Control bring additional tabs to the menu on the left. These functions and their parameters will be explained in later sections of this document.

The Manual Control function is enabled by default, and so is the corresponding configuration tab.

## - Sending of Indication Objects (0 and 1) on Bus Voltage Recovery: 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 to this sending ( 0 to 255 seconds).```
Sending of Indication Objects (0 and 1) on
```

bus voltage recovery
Sending Delay $0 \quad * \mathrm{x} 1 \mathrm{~s}$

Figure 3. Sending of Indication objects on bus voltage recovery

- Heartbeat (Periodical Alive Notification): 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 4. Heartbeat (Periodical Alive Notification).

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.

### 2.2 INPUTS

MINiBOX 25 / 45 incorporates five analogue/digital inputs, each configurable as a:

- Binary Input, for the connection of a pushbutton or a switch/sensor.
- Temperature Probe, for the connection of a temperature sensor from Zennio.
- Motion Detector, for the connection of a motion detector (models ZN1IO-DETEC-P and ZN1IO-DETEC-X from Zennio).

Important: older models of the Zennio motion detector (e.g., ZN1IO-DETEC and ZN1IO-DETEC-N) will not work properly with MINiBOX 25 / 45.

## ETS PARAMETERISATION

When Inputs has been activated in the General parameters screen, the following droplists will be available for the selection of the specific functions required.

| GENERAL | Input 1 | Disabled |
| :---: | :--- | :--- |
| - INPUTS | Input 2 | Disabled |
| CONFIGURATION | Input 3 | Binary Input <br> Temperature Probe <br> Motion Detector |
|  | Input 4 | Disabled |
|  | Input 5 |  |

Figure 5. Inputs - Configuration

All inputs are disabled by default. Depending on the function selected for each input, additional tabs will be included in the menu on the left.

### 2.2.1 BINARY INPUT

Please refer to the specific user manual "Binary Inputs", available in the MINiBOX 25 / 45 product section, at the Zennio website (www.zennio.com).

### 2.2.2 TEMPERATURE PROBE

Please refer to the specific user manual "Temperature Probe", available in the MINiBOX 25 / 45 product section, at the Zennio website (www.zennio.com).

### 2.2.3 MOTION DETECTOR

It is possible to connect motion detectors (models ZN1IO-DETEC-P and ZN1IO-DETEC-X from Zennio) to the input ports of MINiBOX 25 / 45.

Please refer to the specific user manual "Motion Detector", available in the MINiBOX 25 / 45 product section, at the Zennio website (www.zennio.com).

## Notes:

- The ZN1IO-DETEC-P motion detector is compatible with a variety of Zennio devices. However, depending on the device it is actually being connected to, the functionality may differ slightly. Therefore, please refer specifically to the corresponding product section to obtain the aforementioned document.
- Motion detectors with references ZN1IO-DETEC and ZN1IO-DETEC-N are not compatible with MINiBOX 25 / 45 (may report inaccurate measurements if connected to this device).
- When connected to MINiBOX 25 / 45, the rear micro-switch of model ZN1IO-DETEC-P should be set to position "Type B".


### 2.3 OUTPUTS

The MINiBOX 25 and MINiBOX 45 actuators incorporate 2 or 4 relay outputs respectively, each configurable as a:

- Individual binary outputs, which allows an independent control of loads.
- Shutter channels, which allow controlling the motion of shutters or blinds.

For detailed information about the functionality and the configuration of the related parameters, please refer to the following specific manuals, all of them available in the MINiBOX 25 / 45 product section at the Zennio homepage (www.zennio.com):

- Individual outputs.
- Shutter channels.


### 2.3.1 MANUAL CONTROL

MINiBOX 25 / 45 allows manually switching the state of its output relays through the respective pushbuttons on the top of the device. A specific pushbutton is therefore available per output.

Manual operation can be done in two different ways, named as Test On Mode (for testing purposes during the configuration of the device) and Test Off Mode (for a normal use, anytime). Whether both, only one, or none of these modes can be accessed needs to be parameterised in ETS. Moreover, it is possible to enable a specific binary object for locking and unlocking the manual control in runtime.

## Note:

- The Test Off mode will be active (unless it has been disabled by parameter) after a download or a reset with no need of a specific activation - the pushbuttons will respond to user presses from the start.
- On the contrary, 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 has switched from the Test Off mode to the 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 Off Mode

Under the Test Off Mode, the outputs can be controlled through both their communication objects and the actual pushbuttons located on the top of the device.

When one of these buttons is pressed, the output will behave as if an order had been received through the corresponding communication object, depending on whether the output is configured as an individual output or as a shutter channel.

- Individual output: a simple press (short or long) will make the output switch its on-off state, which will be reported to the KNX bus through the corresponding status object, if enabled.
- Shutter Channel: when the button is pressed, the device will act over the output according to the length of the button press and to the current state.
$>$ A long press makes the shutter start moving (upwards or downwards, depending on the button being pressed). The LED will light in green until the end of the motion. If the button gets pressed being the shutter already at the top or bottom positions, nothing will happen (the LED will not light).
> A short press will make the shutter drive stop (if in motion), as it normally does when a step/stop order is received from the KNX bus. In case of not being the shutter in motion, pressing the button does not cause any action, unless slats/lamellas have been parameterized - in such case, a step movement (up/down, depending on the button pressed) will take place. The status objects will be sent to the bus when corresponding.
- Disabled output: outputs disabled by parameter will not react to button presses under the Test Off mode.

Regarding the lock, timer, alarm and scene functions, the device will behave under the Test Off mode as usual. Button presses during this mode are entirely analogous to the reception of the corresponding orders from the KNX bus.

## Test On Mode

After entering the Test On mode, it will only be possible to control the outputs through the on-board 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, 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.

- Disabled output: under the Test On mode, short and long presses will cause the same effect for disabled outputs as for individual outputs (i.e., the relay will switch its state).

The lock, timer, alarm and scene functions will not work while the device is under the Test On mode. Status objects will not be sent to the bus, either.

Important: the device is factory delivered with all the output channels configured as disabled outputs, and with both manual modes (Test Off and Test On) enabled.

## ETS PARAMETERISATION

The Manual Control is configured from the Configuration tab itself under Manual Control.

The only two parameters are:


Figure 6. Manual control screen

- Manual Control: options are "Disabled", "Only Test Mode Off", "Only Test Mode On" and "Test Mode Off + Test On Mode" (default). Depending on the selection, the device will permit using the manual control under the Test Off, the Test On, or both modes. Note that, as stated before, using the Test Off mode does not require any special action, while switching to the Test On mode does require long-pressing the Prog./Test button.
- Lock Manual Control: 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: 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: sets how the manual control should remain after the device start-up (after an ETS download or a bus power failure): "Unlocked", "Locked" or "Last Value" (default; on the very first start-up, this will be Unlocked).


### 2.4 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.

MINiBOX 25 / 45 can implement up to 10 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 specific "Logic Functions" user manual (available in the MINiBOX 25 / 45 product section at the Zennio homepage, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

### 2.5 THERMOSTATS

MINiBOX 25/MINiBOX 45 implements four Zennio thermostats which can be enabled and configured independently.

Please refer to the specific "Zennio Thermostat" user manual (available in the MINiBOX 25 / 45 product section at the Zennio homepage, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

### 2.6 MASTER LIGHT

The Master Light function brings the option to monitor the state of up to 12 light sources -or any other functionally-similar element 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 contains the following options:

- Number of State Objects: defines the number of one-bit status objects required. The minimum (and default) value is " 1 ", and the maximum is "12". 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: sets the value (" $\underline{0}$ ", " 1 " or " $\underline{0 / 1}$ ", being the latter the default option) that will trigger, when received through "[ML] Trigger", the master action (the general switch-off or the courtesy switch-on).


## - General Switch-Off.

> Delay: 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: 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: if checked, object "[ML] General Switch-off: Scaling" will be enabled, which will send a percentage value (configurable in "Value") whenever the general switch-off takes off.
> Scene: if checked, object "[ML] General Switch-off: Scene" will be enabled, which will send a scene run / save order (configurable in "Action" and "Scene Number") whenever the general switch-off takes off
> HVAC: if checked, object "[ML] General Switch-off: HVAC mode" will be enabled, which will send an HVAC thermostat mode value (configurable in "Value", being the options "Auto", "Comfort", "Standby", "Economy" and "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).

| GENERAL | Number of State Objects | 1 | $\uparrow$ |
| :---: | :---: | :---: | :---: |
| - Master Light | Trigger Value | 0/1 | $\checkmark$ |
| Configuration | General Switch Off |  |  |
|  | Delay | 0 | $\star \mathrm{x} 1 \mathrm{~s}$ |
|  | Binary Value | $\checkmark$ |  |
|  | Scaling |  |  |
|  | Scene |  |  |
|  | HVAC |  |  |
|  | Courtesy Switch On |  |  |
|  | Delay | 0 | $\star \times 1 \mathrm{~s}$ |
|  | Binary Value | $\checkmark$ |  |
|  | Scaling |  |  |
|  | Scene |  |  |
|  | HVAC |  |  |

Figure 7. Sending of Indication objects on bus voltage recovery

### 2.7 SCENE TEMPORISATION

The scene temporisation allows imposing delays over the scenes of the outputs. These delays are defined in parameters, and can be applied to 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 or shutter channel, in case of receiving an order to execute one of them when a previous temporisation is still pending for that output or that channel, 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 temporisation, it is necessary to have one or more scenes configured in some of the outputs. When entering the Configuration window under Scene Temporization, all configured scenes will be listed, together with a few checkboxes to select which of them need to be temporised, as shown in Figure 8.


Figure 8. Scene temporisation

Enabling a certain scene number n 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 9. Configuration of the scene temporisation

Therefore, parameter "Scene m. Z Delay" defines the delay that will be applied to the action defined in Z for the execution of scene m (where Z may be a specific individual output, shutter channel or fan coil module). The range of this delay is 0 to 3600 seconds, 0 to 1440 minutes or 0 to 24 hours.

## 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: objects referring to outputs 3 and 4 are not available in MINiBOX 25 .

| 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 |
| $\begin{gathered} \hline 4,5,6,7,8,9,10,11,12, \\ 13,14,15,16,17,18,19, \\ 20,21,22,23,24,25,26, \\ 27,28,29,30,31,32,33, \\ 34,35 \\ \hline \end{gathered}$ | 1 Bit | I | C-- W- | DPT_Bool | 0/1 | [LF] (1-Bit) Data Entry X | Binary Data Entry (0/1) |
| $\begin{gathered} 36,37,38,39,40,41,42, \\ 43,44,45,46,47,48,49, \\ 50,51 \\ \hline \end{gathered}$ | 1 Byte | I | C--W- | DPT_Value_1_Ucount | 0-255 | [LF] (1-Byte) Data Entry X | 1-Byte Data Entry (0-255) |
| $\begin{gathered} 52,53,54,55,56,57,58, \\ 59,60,61,62,63,64,65, \\ 66,67 \end{gathered}$ | 2 Bytes | I | C-- W - | DPT_Value_2_Ucount | 0-65535 | [LF] (2-Byte) Data Entry X | 2-Byte Data Entry |
|  |  |  |  | DPT_Value_2_Count | -32768-32767 |  |  |
|  |  |  |  | DPT_Value_Temp | -273,00-670760,00 |  |  |
| $\begin{gathered} 68,69,70,71,72,73,74, \\ 75 \end{gathered}$ | 4 Bytes | I | C-- W - | DPT_Value_4_Count | $\begin{array}{r} -2147483648- \\ 2147483647 \end{array}$ | [LF] (4-Byte) Data Entry X | 4-Byte Data Entry |
| $\begin{gathered} 76,77,78,79,80,81,82, \\ 83,84,85 \end{gathered}$ | 1 Bit | 0 | C T R - - | DPT_Bool | 0/1 | [LF] Function X - Result | (1-Bit) Boolean |
|  | 1 Byte | 0 | C T R - - | DPT_Value_1_Ucount | 0-255 | [LF] Function X - Result | (1-Byte) Unsigned |
|  | 2 Bytes | 0 | C T R - - | DPT_Value_2_Ucount | 0-65535 | [LF] Function X - Result | (2-Byte) Unsigned |
|  | 4 Bytes | 0 | C T R - - | DPT_Value_4_Count | $\begin{gathered} -2147483648- \\ 2147483647 \end{gathered}$ | [LF] Function $X$ - Result | (4-Byte) Signed |
|  | 1 Byte | 0 | C T R - - | DPT_Scaling | 0\% - 100\% | [LF] Function X - Result | (1-Byte) Percentage |
|  | 2 Bytes | 0 | C T R - - | DPT_Value_2_Count | -65535 | [LF] Function X - Result | (2-Byte) Signed |
|  | 2 Bytes | 0 | C T R - - | DPT_Value_Temp | $\begin{aligned} & \hline-273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \end{aligned}$ | [LF] Function X - Result | (2-Byte) Float |


| 86 | 1 Byte | I | C-- W - | DPT_SceneControl | 0-63; 128-191 | [Outputs] Scenes | $\begin{array}{\|l\|} \hline 0-63 \text { (Execute } 1-64) ; 128 \\ -191 \text { (Save } 1-64 \text { ) } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 87, 95, 103, 111 | 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) |
| 88, 96, 104, 112 | 1 Bit | 0 | C T R - - | DPT_BinaryValue | 0/1 | [OX] On/Off (Status) | 0=Output Off; 1=Output On |
| 89, 97, 105, 113 | 1 Bit | I | C-- W - | DPT_Enable | 0/1 | [OX] Lock | 0=Unlock; 1=Lock |
| 90, 98, 106, 114 | 1 Bit | I | C-- W - | DPT_Start | 0/1 | [OX] Timer | 0=Switch Off; 1=Switch On |
| 91, 99, 107, 115 | 1 Bit | I | C-- W - | DPT_Start | 0/1 | [OX] Flashing | 0=Stop; 1=Start |
| 92, 100, 108, 116 | 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 |
| 93, 101, 109, 117 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [OX] Unfreeze Alarm | Alarm=0 + Unfreeze=1 => End Alarm |
| 94, 102, 110, 118 | 1 Bit | 0 | C T R - - | DPT_State | 0/1 | [OX] Warning Time (Status) | 0=Normal; 1=Warning |
| 119 | 1 Byte | I | C-- W - | DPT_SceneControl | 0-63; 128-191 | [Shutter] Scenes | $\begin{array}{\|l\|} \hline 0-63 \text { (Execute 1-64); 128- } \\ 191 \text { (Save } 1-64 \text { ) } \\ \hline \end{array}$ |
| 120, 137 | 1 Bit | I | C-- W - | DPT_UpDown | 0/1 | [CX] Move | 0=Raise; 1=Lower |
| 121, 138 | 1 Bit | I | C-- W - | DPT_Step | 0/1 | [CX] Stop/Step | $\begin{aligned} & \hline 0=\text { Stop/StepUp; } \\ & 1=\text { Stop/StepDown } \\ & \hline \end{aligned}$ |
|  | 1 Bit | I | C-- W - | DPT_Trigger | 0/1 | [CX] Stop | 0=Stop; 1=Stop |
| 122, 139 | 1 Bit | I | C-- W - | DPT_Enable | 0/1 | [CX] Lock | 0=Unlock; 1 = Lock |
| 123, 140 | 1 Bit | 0 | C TR - - | DPT_Switch | 0/1 | [CX] Rising Relay (Status) | 0=Opened; 1=Closed |
| 124, 141 | 1 Bit | 0 | C TR - - | DPT_Switch | 0/1 | [CX] Lowering Relay (Status) | 0=Opened; 1=Closed |
| 125, 142 | 1 Byte | 0 | C T R - - | DPT_Scaling | 0\%-100\% | [CX] Shutter Position (Status) | 0\%=Top; 100\%=Bottom |
| 126, 143 | 1 Byte | 0 | C TR - - | DPT_Scaling | 0\% - 100\% | [CX] Slats Position (Status) | 0\%=Open; 100\%=Closed |
| 127, 144 | 1 Byte | I | C-- W - | DPT_Scaling | 0\% - 100\% | [CX] Shutter Positioning | 0\%=Top; 100\%=Bottom |
| 128, 145 | 1 Byte | I | C-- W - | DPT_Scaling | 0\% - 100\% | [CX] Slats Positioning | 0\%=Open; 100\%=Closed |
| 129, 146 | 1 Bit | I | C-- W - | DPT_Alarm | 0/1 | [CX] Alarm | 0=No Alarm; 1=Alarm |
|  | 1 Bit | I | C-- W - | DPT_Alarm | 0/1 | [CX] Alarm | 0=Alarm; 1=No Alarm |
| 130, 147 | 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 |
| 131, 148 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [CX] Unfreeze Alarm | Alarm=0 + Unfreeze=1 => End Alarm |
| 132, 149 | 1 Bit | I | C-- W - | DPT_Scene_AB | 0/1 | [CX] Move (Reversed) | 0=Lower; 1=Raise |
| 133, 150 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [CX] Direct Positioning | 0=No Action; 1=Go to Position |
| 134, 151 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [CX] Direct Positioning X | 0=No Action; 1=Go to Position |
| 135, 152 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [CX] Direct Positioning (Save) | $0=$ No Action; 1=Save Current Position |
| 136, 153 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [CX] Direct Positioning X (Save) | 0=No Action; 1=Save Current Position |
| 154 | 1 Byte | I | C-- W - | DPT_SceneControl | 0-63; 128-191 | [Thermostat] Scene Input | Scene Value |
| $\begin{gathered} \hline 155,156,185,186,215, \\ 216,245,246 \\ \hline \end{gathered}$ | 2 Bytes | I | C-- W - | DPT_Value_Temp | $\begin{aligned} & \hline-273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \\ & \hline \end{aligned}$ | [TX] Temperature Source X | External Sensor Temperature |


| 157, 187, 217, 247 | 2 Bytes | 0 | C T R - - | DPT_Value_Temp | $\begin{aligned} & \hline-273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \\ & \hline \end{aligned}$ | [TX] Effective Temperature | Effective Control Temperature |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 158, 188, 218, 248 | 1 Byte | I | C-- W - | DPT_HVACMode | $\begin{aligned} & 1=\text { Comfort } \\ & 2=\text { Standby } \\ & 3=\text { Economy } \\ & 4=\text { Building Protection } \end{aligned}$ | [TX] Special Mode | 1-byte HVAC Mode |
| 159, 189, 219, 249 | 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 |
| 160, 190, 220, 250 | 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 |
| 161, 191, 221, 251 | 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 |
| 162, 192, 222, 252 | 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 |
| 163, 193, 223, 253 | 1 Bit | I | C--W - | DPT_Window_Door | 0/1 | [TX] Window Status (Input) | 0 = Closed; 1 = Open |
| 164, 194, 224, 254 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [TX] Comfort Prolongation | $0=\text { Nothing } ; 1=\text { Timed }$ Comfort |
| 165, 195, 225, 255 | 1 Byte | 0 | C T R-- | DPT_HVACMode | $\begin{aligned} & 1=\text { Comfort } \\ & 2=\text { Standby } \\ & 3=\text { Economy } \\ & 4=\text { Building Protection } \end{aligned}$ | [TX] Special Mode Status | 1-byte HVAC Mode |
| 166, 196, 226, 256 | 2 Bytes | I | C-- W - | DPT_Value_Temp | $\begin{aligned} & -273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \\ & \hline \end{aligned}$ | [TX] Setpoint | Thermostat Setpoint Input |
|  | 2 Bytes | I | C-- W - | DPT_Value_Temp | $\begin{aligned} & -273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \end{aligned}$ | [TX] Basic Setpoint | Reference Setpoint |
| 167, 197, 227, 257 | 1 Bit | I | $\mathbf{C - - W}=$ | DPT_Step | 0/1 | [TX] Setpoint Step | $0=-0.5^{\circ} \mathrm{C} ; 1=+0.5^{\circ} \mathrm{C}$ |
| 168, 198, 228, 258 | 2 Bytes | I | C-- W - | DPT_Value_Tempd | $\begin{array}{r} \hline-670760.00- \\ 670760.00 \\ \hline \end{array}$ | [TX] Setpoint Offset | Float Offset Value |
| 169, 199, 229, 259 | 2 Bytes | 0 | C T R-- | DPT_Value_Temp | $\begin{aligned} & -273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \end{aligned}$ | [TX] Setpoint Status | Current Setpoint |
| 170, 200, 230, 260 | 2 Bytes | 0 | C T R - - | DPT_Value_Temp | $\begin{aligned} & -273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \end{aligned}$ | [TX] Basic Setpoint Status | Current Basic Setpoint |
| 171, 201, 231, 261 | 2 Bytes | 0 | C T R-- | DPT_Value_Tempd | $\begin{array}{r} -670760.00- \\ 670760.00 \\ \hline \end{array}$ | [TX] Setpoint Offset Status | Current Setpoint Offset |
| 172, 202, 232, 262 | 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 |
| 173, 203, 233, 263 | 1 Bit | I | C-- W - | DPT_Heat_Cool | 0/1 | [TX] Mode | $0=$ Cool; 1 = Heat |
| 174, 204, 234, 264 | 1 Bit | 0 | C T R - - | DPT_Heat_Cool | 0/1 | [TX] Mode Status | $0=$ Cool; 1 = Heat |
| 175, 205, 235, 265 | 1 Bit | 1 | C-- W - | DPT_Switch | 0/1 | [TX] On/Off | 0 = Off; 1 = On |
| 176, 206, 236, 266 | 1 Bit | 0 | C TR - - | DPT_Switch | 0/1 | [TX] On/Off Status | 0 = Off; 1 = On |
| 177, 207, 237, 267 | 1 Byte | 0 | C TR - - | DPT_Scaling | 0\% - 100\% | [TX] Control Variable (Cool) | PI Control (Continuous) |
| 178, 208, 238, 268 | 1 Byte | 0 | C TR - - | DPT_Scaling | 0\%-100\% | [TX] Control Variable (Heat) | PI Control (Continuous) |


| 179, 209, 239, 269 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Control Variable (Cool) | 2-Point Control |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Control Variable (Cool) | PI Control (PWM) |
| 180, 210, 240, 270 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Control Variable (Heat) | 2-Point Control |
|  | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Control Variable (Heat) | PI Control (PWM) |
| 181, 211, 241, 271 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Additional Cool | $\begin{aligned} & \text { Temp >= (Setpoint+Band) } \\ & =>\text { "1" } \end{aligned}$ |
| 182, 212, 242, 272 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] Additional Heat | $\begin{array}{\|l} \hline \text { Temp <= (Setpoint-Band) => } \\ \text { "1" } \end{array}$ |
| 183, 213, 243, 273 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] PI State (Cool) | $0=\mathrm{PI} \text { signal } 0 \% ; 1=\mathrm{PI}$ <br> signal greater than 0\% |
| 184, 214, 244, 274 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [TX] PI State (Heat) | $0=$ PI signal 0\%; $1=$ PI signal greater than 0\% |
| 275 | 1 Bit | I | C-- W - | DPT_Switch | 0/1 | [ML] Trigger | Trigger the Master Light Function |
| $\begin{gathered} \hline 276,277,278,279,280, \\ 281,282,283,284,285, \\ 286,287 \\ \hline \end{gathered}$ | 1 Bit | I | C-- W - | DPT_Switch | 0/1 | [ML] Status Object X | Binary Status |
| 288 | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [ML] General Status | Binary Status |
| 289 | 1 Bit |  | C T - - | DPT_Switch | 0/1 | [ML] General Switch Off: Binary Object | Switch Off Sending |
| 290 | 1 Byte |  | C T - - - | DPT_Scaling | 0\% - 100\% | [ML] General Switch Off: Scaling | 0-100\% |
| 291 | 1 Byte |  | C T - - - | DPT_SceneControl | 0-63; 128-191 | [ML] General Switch Off: Scene | Scene Sending |
| 292 | 1 Byte |  | C T - - | DPT_HVACMode | $\begin{gathered} 1=\text { Comfort } \\ 2=\text { Standby } \\ 3=\text { Economy } \\ 4=\text { Building Protection } \end{gathered}$ | [ML] General Switch Off: HVAC mode | Auto, Comfort, Standby, Economy, Building Protection |
| 293 | 1 Bit |  | C T--- | DPT_Switch | 0/1 | [ML] Courtesy Switch On: Binary Object | Switch On Sending |
| 294 | 1 Byte |  | C T - - - | DPT_Scaling | 0\% - 100\% | [ML] Courtesy Switch On: Scaling | 0-100\% |
| 295 | 1 Byte |  | C T - - - | DPT_SceneControl | 0-63; 128-191 | [ML] Courtesy Switch On: Scene | Scene Sending |
| 296 | 1 Byte |  | C T - - | DPT_HVACMode | $\begin{aligned} & 1=\text { Comfort } \\ & 2=\text { Standby } \\ & 3=\text { Economy } \\ & 4=\text { Building Protection } \end{aligned}$ | [ML] Courtesy Switch On: HVAC mode | Auto, Comfort, Standby, Economy, Building Protection |
| 297, 301, 305, 309, 313 | 2 Bytes | 0 | C T R - - | DPT_Value_Temp | $\begin{aligned} & -273.00^{\circ} \mathrm{C}- \\ & 670760.00^{\circ} \mathrm{C} \\ & \hline \end{aligned}$ | [IX] Current Temperature | Temperature sensor value |
| 298, 302, 306, 310, 314 | 1 Bit | 0 | C T R - - | DPT_Alarm | 0/1 | [IX] Overcooling | 0 = No Alarm;1 = Alarm |
| 299, 303, 307, 311, 315 | 1 Bit | 0 | C T R - - | DPT_Alarm | 0/1 | [IX] Overheating | 0 = No Alarm; 1 = Alarm |
| 300, 304, 308, 312, 316 | 1 Bit | 0 | C T R - - | DPT_Alarm | 0/1 | [IX] Probe Error | 0 = No Alarm; 1 = Alarm |
| 317, 323, 329, 335, 341 | 1 Bit | I | C-- W - | DPT_Enable | 0/1 | [IX] Input Lock | 0 = Unlock; 1 = Lock |
| 318, 324, 330, 336, 342 | 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 T - W - | 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 (Switched) | Switching of 0/1 (Stop/Step Up/Down) |
|  | 4 Bit |  | C T - - | DPT_Control_Dimming | 0x0 (Stop) <br> 0x1 (Dec. by 100\%) <br> $0 \times 2$ (Dec. by 50\%) <br> $0 \times 3$ (Dec. by $25 \%$ ) <br> $0 \times 4$ (Dec. by 12\%) <br> $0 \times 5$ (Dec. by 6\%) <br> 0x6 (Dec. by 3\%) <br> 0x7 (Dec. by 1\%) <br> 0x8 (Stop) <br> $0 \times 9$ (Inc. by 100\%) <br> 0xA (Inc. by 50\%) <br> 0xB (Inc. by 25\%) <br> $0 x C$ (Inc. by $12 \%$ ) <br> 0xD (Inc. by 6\%) <br> 0xE (Inc. by 3\%) <br> 0xF (Inc. by 1\%) | [IX] [Short Press] Brighter | Increase Brightness |
|  | 4 Bit |  | C T - - | DPT_Control_Dimming | $0 \times 0$ (Stop) $0 \times 1$ (Dec. by 100\%) $\ldots$ $0 \times 7$ (Dec. by 1\%) $0 \times 8$ (Stop) $0 \times 9$ (Inc. by 100\%) $\ldots$ $0 \times F$ (Inc. by 1\%) | [IX] [Short Press] Darker | Decrease Brightness |
|  | 4 Bit |  | C T - - - | DPT_Control_Dimming | 0x0 (Stop) <br> $0 \times 1$ (Dec. by 100\%) <br> $0 \times 7$ (Dec. by 1\%) 0x8 (Stop) <br> 0x9 (Inc. by 100\%) | [IX] [Short Press] Brighter/Darker | Switch Bright/Dark |


|  |  |  |  |  | 0xF (Inc. by 1\%) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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 T - W - | 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 TR W - | 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 | $\begin{gathered} \hline-671088.64- \\ 670760.96 \\ \hline \end{gathered}$ | [IX] [Short Press] Constant Value (Float) | Float Value |
| $\begin{aligned} & \hline 318,319,324,325,330 \\ & 331,336,337,342,343 \\ & \hline \end{aligned}$ | 2 Bytes | 0 | C T R - - | DPT_Value_2_Ucount | 0-65535 | [IX] [Pulse Counter] Counter | Number of Pulses |
| 319, 325, 331, 337, 343 | 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 (Input) | 0\%-100\% |
| 320, 326, 332, 338, 344 | 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 T - W - | 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 | $0 \times 0$ (Stop) $0 \times 1$ (Dec. by $100 \%$ ) $\ldots$ $0 \times 7$ (Dec. by 1\%) $0 \times 8$ (Stop) $0 \times 9$ (Inc. by 100\%) $\ldots$ $0 \times F$ (Inc. by 1\%) | [IX] [Long Press] Brighter | Long Pr. -> Brighter; Release -> Stop |
|  | 4 Bit |  | C T--- | DPT_Control_Dimming | $\begin{gathered} 0 \times 0 \text { (Stop) } \\ 0 \times 1 \text { (Dec. by } 100 \% \text { ) } \\ \hline \end{gathered}$ | [IX] [Long Press] Darker | Long Pr. -> Darker; Release > Stop |



|  |  |  |  |  |  |  | Circuit Error |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 351, 380, 409, 438, 467 | 1 Bit | 0 | C T R - - | DPT_Alarm | 0/1 | [IX] Short Circuit Error | 0 = No Error; 1 = Short Circuit Error |
| 352, 381, 410, 439, 468 | 1 Byte | 0 | C T R - - | DPT_Scaling | 0\%-100\% | [IX] Presence State (Scaling) | 0-100\% |
| 353, 382, 411, 440, 469 | 1 Byte | 0 | C T R - - | DPT_HVACMode | $1=$ Comfort $2=$ Standby $3=$ Economy $4=$ Building Protection | [IX] Presence State (HVAC) | Auto, Comfort, Standby, Economy, Building Protection |
|  | 1 Bit | 0 | C T R - - | DPT_Occupancy | 0/1 | [IX] Presence State (Binary) | Binary Value |
| 354, 383, 412, 441, 470 | 1 Bit | 0 | C T R - - | DPT_Ack | 0/1 | [IX] Presence: Slave Output | 1 = Motion Detected |
| 355, 384, 413, 442, 471 | 1 Bit | I | C-- W - | DPT_Window_Door | 0/1 | [IX] Presence Trigger | Binary Value to Trigger the Presence Detection |
| 356, 385, 414, 443, 472 | 1 Bit | I | C-- W - | DPT_Ack | 0/1 | [IX] Presence: Slave Input | $0=$ Nothing; $1=$ Detection from slave device |
| 357, 386, 415, 444, 473 | 2 Bytes | I | C-- W - | DPT_TimePeriodSec |  | [IX] Presence: Waiting Time | 0-65535 s. |
| 358, 387, 416, 445, 474 | 2 Bytes | I | C-- W - | DPT_TimePeriodSec |  | [IX] Presence: Listening Time | $1-65535 \mathrm{~s}$. |
| 359, 388, 417, 446, 475 | 1 Bit | I | C-- W - | DPT_Enable | 0/1 | [IX] Presence: Enable | According to parameters |
| 360, 389, 418, 447, 476 | 1 Bit | I | C-- W - | DPT_Switch | 0/1 | [IX] Presence: Day/Night | According to parameters |
| 361, 390, 419, 448, 477 | 1 Bit | O | C T R - - | DPT_Occupancy | 0/1 | [IX] Presence: Occupancy State | 0 = Not Occupied; 1 = Occupied |
| 362, 391, 420, 449, 478 | 1 Bit | I | C-- W- | DPT_Ack | 0/1 | [IX] External Motion Detection | $0=$ Nothing; 1 = Motion detected by an external sensor |
| $\begin{aligned} & 363,368,373,392,397, \\ & 402,421,426,431,450, \\ & 455,460,479,484,489 \\ & \hline \end{aligned}$ | 1 Byte | 0 | C T R - - | DPT_Scaling | 0\%-100\% | [IX] [CX] Detection State (Scaling) | 0-100\% |
| $\begin{aligned} & 364,369,374,393,398, \\ & 403,422,427,432,451, \\ & 456,461,480,485,490 \end{aligned}$ | 1 Byte | 0 | C T R - - | DPT_HVACMode | $\begin{gathered} 1=\text { Comfort } \\ 2=\text { Standby } \\ 3=\text { Economy } \\ 4=\text { Building Protection } \\ \hline \end{gathered}$ | [IX] [CX] Detection State (HVAC) | Auto, Comfort, Standby, Economy, Building Protection |
| $\begin{aligned} & \hline 365,370,375,394,399, \\ & 404,423,428,433,452, \\ & 457,462,481,486,491 \\ & \hline \end{aligned}$ | 1 Bit | 0 | C T R - - | DPT_Switch | 0/1 | [IX] [CX] Detection State (Binary) | Binary Value |
| $\begin{aligned} & 366,371,376,395,400, \\ & 405,424,429,434,453, \\ & 458,463,482,487,492 \\ & \hline \end{aligned}$ | 1 Bit | I | C-- W- | DPT_Enable | 0/1 | [IX] [CX] Enable Channel | According to parameters |
| $\begin{aligned} & 367,372,377,396,401, \\ & 406,425,430,435,454, \\ & 459,464,483,488,493 \end{aligned}$ | 1 Bit | I | C-- W- | DPT_Switch | 0/1 | [IX] [CX] Force State | $0=$ No Detection; 1 = Detection |
| 494 | 1 Bit |  | C T - - - | DPT_Trigger | 0/1 | [Heartbeat] Object to Send '1' | Sending of '1' Periodically |

## Join and send us your inquiries about Zennio devices: http://support.zennio.com

## Zennio Avance y Tecnología S.L.

C/ Río Jarama, 132. Nave P-8.11
45007 Toledo (Spain).

Tel. +34 925232002.
RoHS

