MINiBOX QUATRO

Multifunction Actuator with 4 Outputs and a Fan Coil Module

ZIO-MN40

Application programme version: [1.3]
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**: • Optimisation of the outputs, logic functions, shutter channel, fan coil and heartbeat modules.	-
	Minor text changes.	-
[1.2]_a	**Changes in the application programme**: • Heartbeat functionality added.	-
	Heartbeat functionality added.	4, 8

1 INTRODUCTION

1.1 MINiBOX QUATRO

MINiBOX QUATRO from Zennio is a versatile KNX actuator featuring a wide variety of functions and four relay outputs for a variety of applications, such as controlling shutter drives or a fan coil unit.

The most outstanding features are:

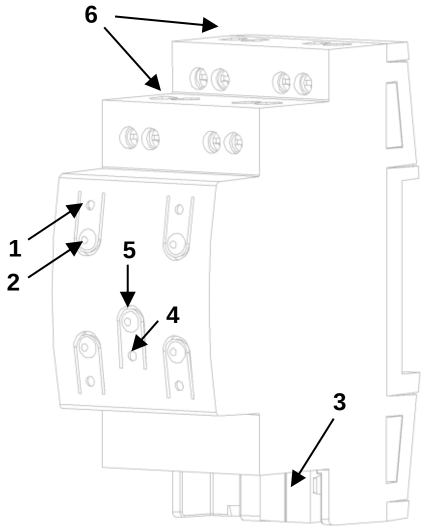
- **4 relay outputs**, configurable as:
  - Up to 2 independent shutter channels (with or without slats),
  - Up to 4 individual ON/OFF outputs,
  - A combination of the above,
  - Up to 1 two-pipe fan coil module where both the fan speed control and the valve control are performed through relays,
- **10 customisable, multi-operation logic functions**.
- **Scene-triggered action control**, with an optional delay in the execution.
- **Manual operation / supervision** of the 4 relay outputs through the on-board pushbuttons and LEDs.
- **Heartbeat** or periodical “still-alive” notification.

1.2 INSTALLATION

MINiBOX QUATRO 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 programme may be downloaded.

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



1. Output Status LED Indicator.
2. Manual Control Pushbutton.
3. KNX Connector.
4. Prog./Test LED.
5. Prog./Test Pushbutton.
6. Relay Outputs.

Figure 1. MINiBOX QUATRO. Elements

The main elements of the device are described next.

- **Prog./Test 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 2.2). Please secure the connection by means of the on-board 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 Prog./Test 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 and the fan coil outputs will switch to the specific state configured in ETS (if any).

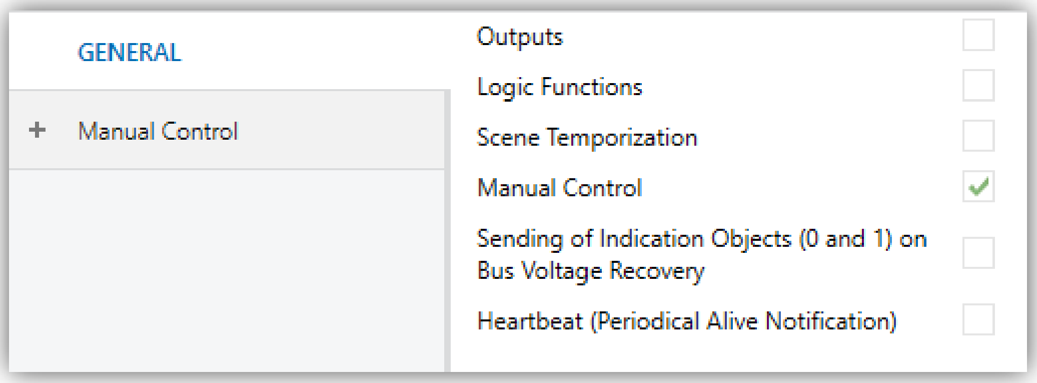
2 CONFIGURATION

2.1 GENERAL

After importing the corresponding database in ETS and adding the device into the topology of the desired 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.



GENERAL

+ Manual Control

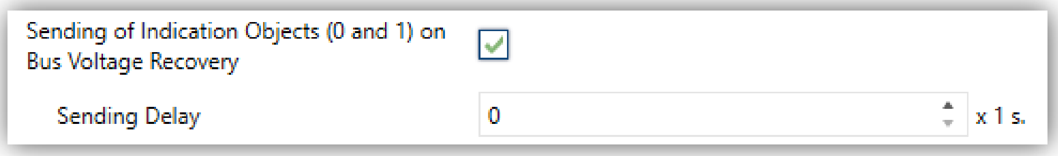
Outputs	□
Logic Functions	□
Scene Temporization	□
Manual Control	☑
Sending of Indication Objects (0 and 1) on Bus Voltage Recovery	□
Heartbeat (Periodical Alive Notification)	□

Figure 2. General

- Once activated, **Outputs, Logic Functions, 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).

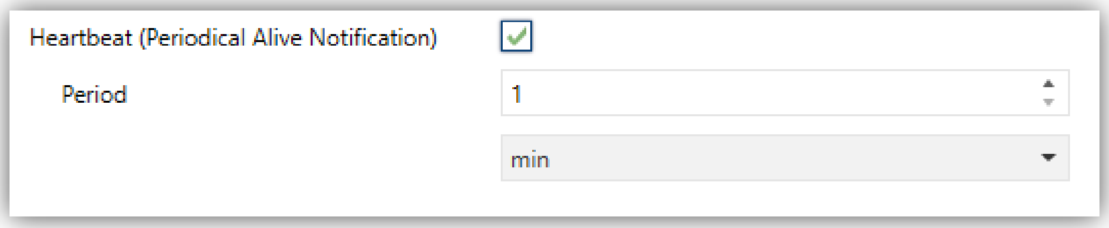


Sending of Indication Objects (0 and 1) on Bus Voltage Recovery ☑

Sending Delay: 0 x 1 s.

Figure 3. Sending of Indication objects on bus voltage recovery

- **Heartbeat (Periodical Alive Notification)**: incorporates a one-bit object to the project ("**[Heartbeat] Object to Send '1'**") that will be sent periodically with a value of "1" to notify that the device is still working (still *alive*)..



Heartbeat (Periodical Alive Notification) ☑

Period: 1

min

Figure 4. Heartbeat (Periodical Alive Notification).

<u>**Note**</u>: *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 OUTPUTS

MINiBOX QUATRO incorporates **4 relay outputs**, 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.
- **One fan coil module**, which allows the control of the fan and the valve of two-pipe fan coil units.

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 Quatro product section at the Zennio homepage (www.zennio.com):

- **Individual outputs.**
- **Shutter channels.**
- **'Relays' fan coil**. Note that MINiBOX QUATRO is only compatible with two-pipe fan coils. Therefore, any references to four-pipe fan coils do not apply to this device.

2.2.1 MANUAL CONTROL

MINiBOX QUATRO 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.

- **Fan coil module**: the behaviour will depend on whether a fan-labelled ✤ or a valve-labelled ⋈ button is pressed:

    - **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). The associated LEDs will indicate the state of the fan speed control relays.

      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. The LED will show the state of the relay anytime (on = relay closed; off = relay open)

- **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.*

- **Fan Coil module**: the behaviour is similar to that of the Test Off mode, although in this case the three fan speeds are supposed available.
- **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 will open, for safety reasons.

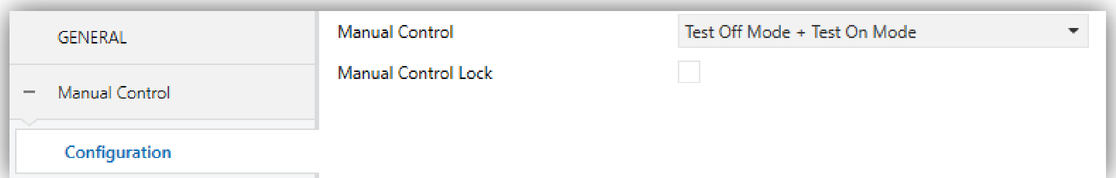
The lock, timer, alarm and scene functions will not work while the device is under the Test On mode. Status objects will not be sent to the bus, either.

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:



Manual Control: Test Off Mode + Test On Mode

Manual Control Lock: □

Figure 5. 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 lock state of 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).

2.3 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 QUATRO 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 "**Logic Functions**" user manual, available within the MINiBOX Quatro product section at the Zennio homepage, www.zennio.com, for detailed information about the functionality and the configuration of the related parameters.

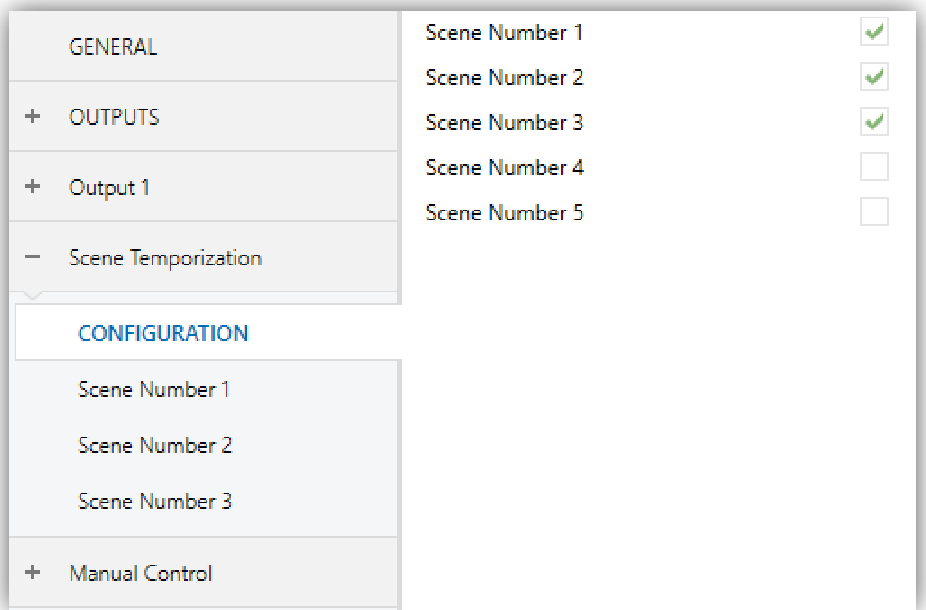
2.4 SCENE TEMPORISATION

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 / 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

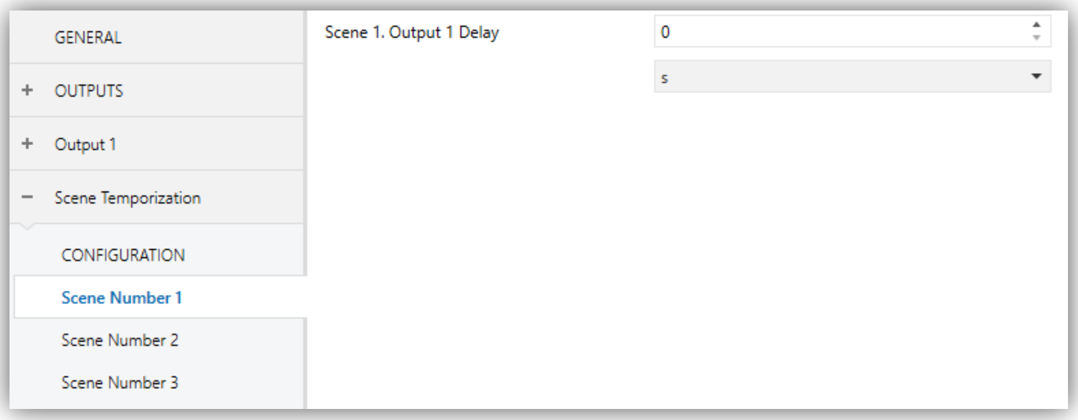
Prior to setting the **scene temporisation**, it is necessary to have one or more scenes configured in some of the outputs. When entering the Configuration window under Scene Temporization, all configured scenes will be listed, together with a few checkboxes to select which of them need to be temporised, as shown in Figure 6.



Scene Number 1 ☑
Scene Number 2 ☑
Scene Number 3 ☑
Scene Number 4 □
Scene Number 5 □

Figure 6. 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 <u>for each of the outputs where it has been configured</u>.



Scene 1. Output 1 Delay: 0 s

Figure 7. 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 programme itself.

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 Byte	I	C - - W -	DPT_SceneControl	0-63; 128-191	[Shutter] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
5, 22	1 Bit	I	C - - W -	DPT_UpDown	0/1	[Cx] Move	0=Raise; 1=Lower
6, 23	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
7, 24	1 Bit	I	C - - W -	DPT_Enable	0/1	[Cx] Lock	0=Unlock; 1=Lock
8, 25	1 Bit	O	C T R - -	DPT_Switch	0/1	[Cx] Rising Relay (Status)	0=Opened; 1=Closed
9, 26	1 Bit	O	C T R - -	DPT_Switch	0/1	[Cx] Lowering Relay (Status)	0=Opened; 1=Closed
10, 27	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[Cx] Shutter Position (Status)	0%=Top; 100%=Bottom
11, 28	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[Cx] Slats Position (Status)	0%=Open; 100%=Closed
12, 29	1 Byte	I	C - - W -	DPT_Scaling	0% - 100%	[Cx] Shutter Positioning	0%=Top; 100%=Bottom
13, 30	1 Byte	I	C - - W -	DPT_Scaling	0% - 100%	[Cx] Slats Positioning	0%=Open; 100%=Closed
14, 31	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
15, 32	1 Bit	I	C - - W -	DPT_Alarm	0/1	[Cx] Alarm 2	0=No Alarm; 1=Alarm
	1 Bit	I	C - - W -	DPT_Alarm	0/1	[Cx] Alarm 2	0=Alarm; 1=No Alarm
16, 33	1 Bit	I	C - - W -	DPT_Ack	0/1	[Cx] Unfreeze Alarm	Alarm=0 + Unfreeze=1 => End Alarm
17, 34	1 Bit	I	C - - W -	DPT_Scene_AB	0/1	[Cx] Move (Reversed)	0=Lower; 1=Raise
18, 35	1 Bit	I	C - - W -	DPT_Ack	0/1	[Cx] Direct Positioning	0=No Action; 1=Go to Position
19, 36	1 Bit	I	C - - W -	DPT_Ack	0/1	[Cx] Direct Positioning 2	0=No Action; 1=Go to Position
20, 37	1 Bit	I	C - - W -	DPT_Ack	0/1	[Cx] Direct Positioning (Save)	0=No Action; 1=Save Current Position
21, 38	1 Bit	I	C - - W -	DPT_Ack	0/1	[Cx] Direct Positioning 2 (Save)	0=No Action; 1=Save Current Position
39	1 Byte	I	C - - W -	DPT_SceneControl	0-63; 128-191	[Outputs] Scenes	0 – 63 (Execute 1 – 64); 128 – 191 (Save 1 – 64)
40, 48, 56, 64	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)

41, 49, 57, 65	1 Bit	O	C T R - -	DPT_BinaryValue	0/1	[Ox] On/Off (Status)	0=Output Off; 1=Output On
42, 50, 58, 66	1 Bit	I	C - - W -	DPT_Enable	0/1	[Ox] Lock	0=Unlock; 1=Lock
43, 51, 59, 67	1 Bit	I	C - - W -	DPT_Start	0/1	[Ox] Timer	0=Switch Off; 1=Switch On
44, 52, 60, 68	1 Bit	I	C - - W -	DPT_Start	0/1	[Ox] Flashing	0=Stop; 1=Start
45, 53, 61, 69	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
46, 54, 62, 70	1 Bit	I	C - - W -	DPT_Ack	0/1	[Ox] Unfreeze Alarm	Alarm=0 + Unfreeze=1 => End Alarm
47, 55, 63, 71	1 Bit	O	C T R - -	DPT_State	0/1	[Ox] Warning Time (Status)	0=Normal; 1=Warning
72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103	1 Bit	I	C - - W -	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119	1 Byte	I	C - - W -	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135	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		
136, 137, 138, 139, 140, 141, 142, 143	4 Bytes	I	C - - W -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
144, 145, 146, 147, 148, 149, 150, 151, 152, 153	1 Bit	O	C T R - -	DPT_Bool	0/1	[LF] Function x - Result	(1-Bit) Boolean
	1 Byte	O	C T R - -	DPT_Value_1_Ucount	0 - 255	[LF] Function x - Result	(1-Byte) Unsigned
	2 Bytes	O	C T R - -	DPT_Value_2_Ucount	0 - 65535	[LF] Function x - Result	(2-Byte) Unsigned
	4 Bytes	O	C T R - -	DPT_Value_4_Count		[LF] Function x - Result	(4-Byte) Signed
	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[LF] Function x - Result	(1-Byte) Percentage
	2 Bytes	O	C T R - -	DPT_Value_2_Count	-65535	[LF] Function x - Result	(2-Byte) Signed
	2 Bytes	O	C T R - -	DPT_Value_Temp	-273.00 ºC - 670760.00 ºC	[LF] Function x - Result	(2-Byte) Float
154	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)
155	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] On/Off	0 = Off; 1 = On
156	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] On/Off (Status)	0 = Off; 1 = On
157	1 Bit	I	C - - W U	DPT_Heat_Cool	0/1	[FC1] Mode	0 = Cool; 1 = Heat
158	1 Bit	O	C T R - -	DPT_Heat_Cool	0/1	[FC1] Mode (Status)	0 = Cool; 1 = Heat
159	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Fan: Manual/Automatic	0 = Automatic; 1 = Manual
	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Fan: Manual/Automatic	0 = Manual; 1 = Automatic
160	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Manual/Automatic (Status)	0 = Automatic; 1 = Manual

	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Manual/Automatic (Status)	0 = Manual; 1 = Automatic
161	1 Bit	I	C - - W U	DPT_Step	0/1	[FC1] Manual Fan: Step Control	0 = Down; 1 = Up
162	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Manual Fan: Speed 0	0 = Off; 1 = On
163	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Manual Fan: Speed 1	0 = Off; 1 = On
164	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Manual Fan: Speed 2	0 = Off; 1 = On
165	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Manual Fan: Speed 3	0 = Off; 1 = On
166	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Speed 0 (Status)	0 = Off; 1 = On
167	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Speed 1 (Status)	0 = Off; 1 = On
168	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Speed 2 (Status)	0 = Off; 1 = On
169	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Fan: Speed 3 (Status)	0 = Off; 1 = On
170	1 Byte	I	C - - W U	DPT_Value_1_Ucount	0 - 255	[FC1] Manual Fan: Enumeration Control	S0 = 0; S1 = 1; S2 = 2; S3 = 3
	1 Byte	I	C - - W U	DPT_Value_1_Ucount	0 - 255	[FC1] Manual Fan: Enumeration Control	0 = S0; 1 = S1; 2 = S2
	1 Byte	I	C - - W U	DPT_Value_1_Ucount	0 - 255	[FC1] Manual Fan: Enumeration Control	0 = S0; 1 = S1
171	1 Byte	O	C T R - -	DPT_Value_1_Ucount	0 - 255	[FC1] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1; S2 = 2; S3 = 3
	1 Byte	O	C T R - -	DPT_Value_1_Ucount	0 - 255	[FC1] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1; S2 = 2
	1 Byte	O	C T R - -	DPT_Value_1_Ucount	0 - 255	[FC1] Fan: Speed Enumeration (Status)	S0 = 0; S1 = 1
172	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] 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%	[FC1] Manual Fan: Percentage Control	0% = S0; 1-50% = S1; 51-100% = S2
	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] Manual Fan: Percentage Control	0% = S0; 1-100% = S1
173	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[FC1] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 33,3%; S2 = 66,6%; S3 = 100%
	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[FC1] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 50,2%; S2 = 100%
	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[FC1] Fan: Speed Percentage (Status)	S0 = 0%; S1 = 100%
174	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] Cooling Fan: Continuous Control	0 - 100%
	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] Cooling Valve: PI Control (Continuous)	0 - 100%
175	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] Heating Fan: Continuous Control	0 - 100%
	1 Byte	I	C - - W U	DPT_Scaling	0% - 100%	[FC1] Heating Valve: PI Control (Continuous)	0 - 100%

176	1 Bit	I	C - - W U	DPT_OpenClose	0/1	[FC1] Cooling Valve: Control Variable (1 bit)	0 = Open Valve; 1 = Close Valve
	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Cooling Valve: Control Variable (1 bit)	0 = Close Valve; 1 = Open Valve
177	1 Bit	I	C - - W U	DPT_OpenClose	0/1	[FC1] Heating Valve: Control Variable (1 bit)	0 = Open Valve; 1 = Close Valve
	1 Bit	I	C - - W U	DPT_Switch	0/1	[FC1] Heating Valve: Control Variable (1 bit)	0 = Close Valve; 1 = Open Valve
178	1 Bit	O	C T R - -	DPT_OpenClose	0/1	[FC1] Cooling Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Cooling Valve (Status)	0 = Closed; 1 = Open
	1 Bit	O	C T R - -	DPT_OpenClose	0/1	[FC1] Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Valve (Status)	0 = Closed; 1 = Open
179	1 Bit	O	C T R - -	DPT_OpenClose	0/1	[FC1] Heating Valve (Status)	0 = Open; 1 = Closed
	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Heating Valve (Status)	0 = Closed; 1 = Open
180	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Cooling Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
181	1 Bit	O	C T R - -	DPT_Switch	0/1	[FC1] Heating Valve: Anti-Seize Protection (Status)	0 = Not Active; 1 = Active
182	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[FC1] Valve (Status)	0 - 100%
183	1 Bit	O	C T R - -	DPT_Bool	0/1	[FC1] Control Value - Error	0 = No Error; 1 = Error
184	2 Bytes	I	C - - W U	DPT_Value_Temp	-273.00 ºC - 670760.00 ºC	[FC1] Ambient Temperature	Ambient Temperature
185	2 Bytes	I	C - - W U	DPT_Value_Temp	-273.00 ºC - 670760.00 ºC	[FC1] Setpoint Temperature	Setpoint Temperature
186	2 Bytes	I/O	C T R W U	DPT_TimePeriodMin	1 - 1440	[FC1] Duration of Manual Control	0 = Endless; 1 - 1440 min
	2 Bytes	I/O	C T R W U	DPT_TimePeriodHrs	1 - 24	[FC1] Duration of Manual Control	0 = Endless; 1 - 24 h
187	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. +34 925 232 002

www.zennio.com
info@zennio.com