

inBOX 24 vT / inBOX 20 vT

Multifunction Actuator for Flush Mounting

ZIOIB24VT

ZIOIB20VT

Application program version: [1.2], [1.4]

User manual edition: [1.4]_b

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DOCUMENT UPDATES

Version	Changes	Page(s)
[1.4]_b	• Erratum correction on functionalities listed for inBOX 24 vT.	4, 8
	• Separation of communication objects table in two tables.	21, 24

1 INTRODUCTION

1.1 inBOX 24 vT / inBOX 20 vT

inBOX 24 vT and inBOX 20 vT from Zennio are two versatile KNX actuators featuring two relay outputs (together with four analogue-digital inputs, in the case of inBOX 24 vT) and a variety of functions. Their particularly small size makes them suitable for installation within mechanism boxes, junction boxes, roller shutter boxes or any other location where the available space is limited.

The most outstanding features are:

- **2 relay outputs**, configurable as:
 - 1 shutter channel (with or without slats), or
 - Up to 2 individual ON/OFF outputs.
- **4 multi-purpose inputs** (only in inBOX 24 vT), configurable as:
 - Temperature probe, either models provided by Zennio or other NTC temperature probes from other suppliers, being in that case possible to configure their parameters in ETS.
 - Binary inputs (i.e., pushbuttons, switches, sensors),
 - Motion detectors.
- **10 customisable, multi-operation logic functions.**
- **1 Zennio thermostat** (only in inBOX 24 vT).
- **Scene-triggered action control**, with an optional delay in the execution.
- **Master light control** (only in inBOX 24 vT) 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 on-board pushbuttons and LEDs.
- **Heartbeat** or periodical “still-alive” notification.

1.2 INSTALLATION

inBOX 24 / 20 vT connects to the KNX bus through the on-board KNX connector.

Once the device is powered 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.

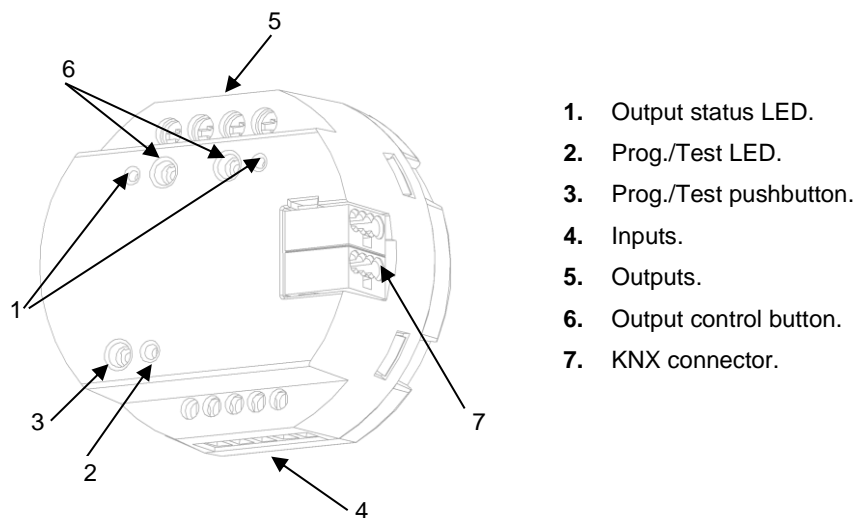


Figure 1. inBOX 24 vT. Elements

Note: the above element diagram refers to inBOX 24 vT. It is entirely analogous for inBOX 20 vT, although the inputs are not available.

The main elements of the device are described next.

- **Test/Prog. Pushbutton (3):** a short press on this button sets the device into the programming mode, making the associated LED (2) 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 (5):** 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 (4):** 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 “4”, 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.

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, the **shutter channel** 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 desired project, the configuration process begins by entering the Parameters tab of the device.

ETS PARAMETERISATION

From the General screen it is possible to activate/deactivate all the required functionality.

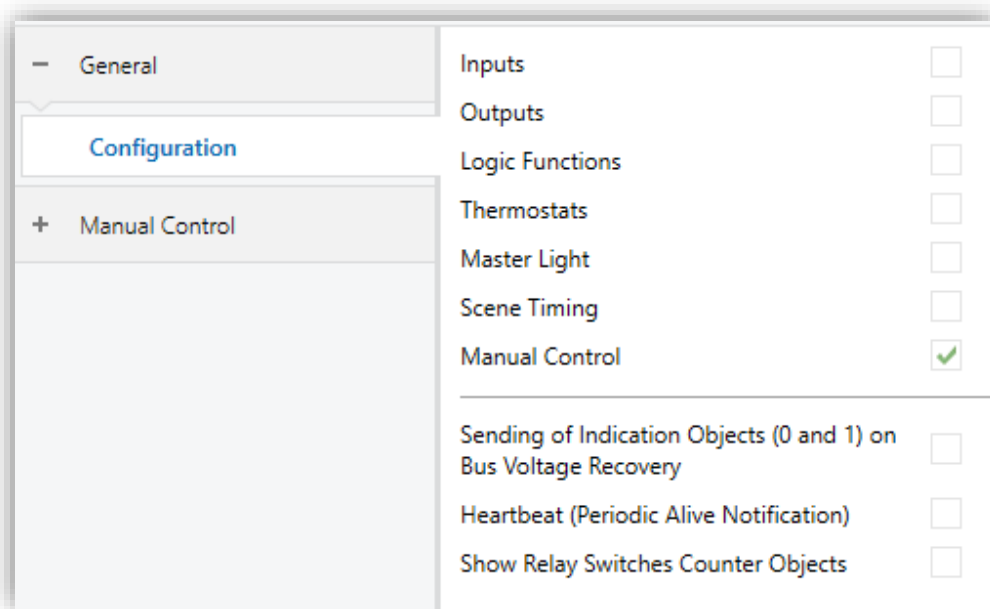
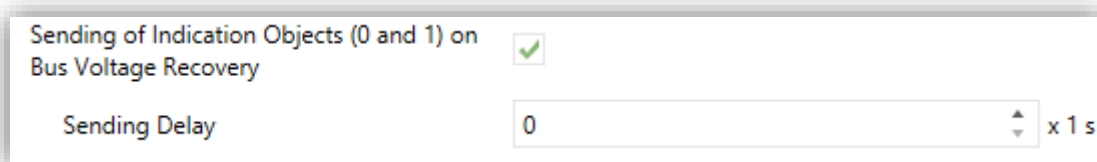


Figure 2. Default screen

- Once activated, **Inputs** (only on inBOX 24 vT), **Outputs**, **Logic Functions**, **Thermostats** (only on inBOX 24 vT), **Master Light** (only on inBOX 24 vT), **Scene Temporisat**ion 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.

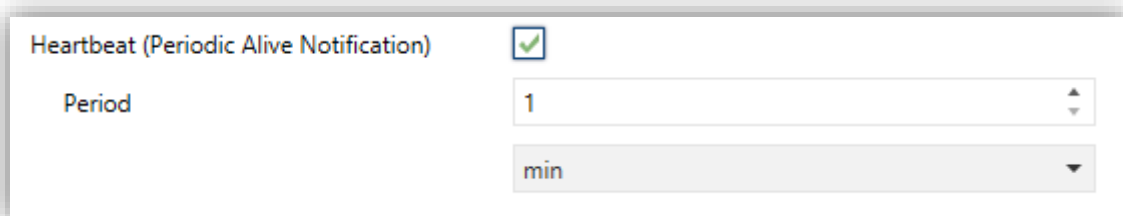
- **Sending of Indication Objects (0 and 1) on Bus Voltage Recovery:** this parameter lets the integrator activate two new communication objects (“**Reset 0**” and “**Reset 1**”), which will be sent to the KNX bus with values “0” and “1” respectively whenever the device begins operation (for example,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



The screenshot shows a configuration window with a checked checkbox for 'Sending of Indication Objects (0 and 1) on Bus Voltage Recovery'. Below it, the 'Sending Delay' is set to 0 in a numeric input field, followed by a unit selector showing 'x 1 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*).



The screenshot shows a configuration window with a checked checkbox for 'Heartbeat (Periodical Alive Notification)'. Below it, the 'Period' is set to 1 in a numeric input field, and the unit is set to 'min' in a dropdown menu.

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.*

- **Show Relay Switches Counter Objects** [*disabled/enabled*]: (only on inBOX 20 vT) 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**”).

2.2 INPUTS (ONLY inBOX 24 vT)

inBOX 24 vT incorporates **four 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 or NTC probes from third parties (the latter requires configuring their parameters in ETS).
- **Motion Detector**, for the connection of a motion detector from Zennio.

2.2.1 BINARY INPUT

Please refer to the specific user manual “**Binary Inputs**”, available in the inBOX 24 vT 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 inBOX 24 vT product section, at the Zennio website (www.zennio.com).

2.2.3 MOTION DETECTOR

It is possible to connect motion detectors from Zennio to the input ports of inBOX 24 vT.

Please refer to the specific user manual “**Motion Detector**”, available in the inBOX 24 vT product section, at the Zennio website (www.zennio.com), for detailed information about the functionality and the configuration of the related parameters.

2.3 OUTPUTS

The inBOX 24 / 20 vT actuators incorporate **2 relay outputs**, each configurable as a:

- **Individual binary outputs**, which allows an independent control of loads.
- **Shutter channel**, 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 inBOX 24 / 20 vT product section at the Zennio homepage (www.zennio.com):

- **Individual outputs.**
- **Shutter channels.**

2.3.1 MANUAL CONTROL

inBOX 24 / 20 vT 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 delivered from factory with the outputs configured as disabled, 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:

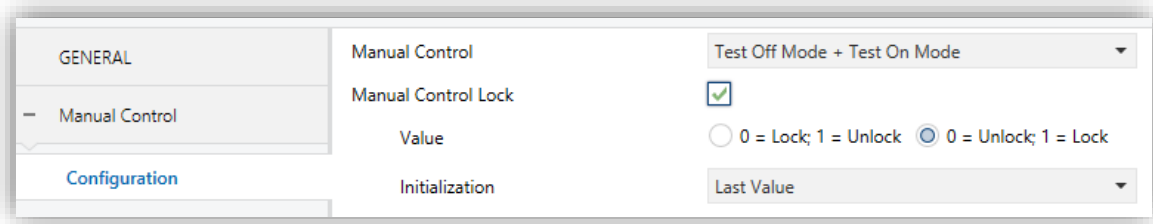


Figure 5. Manual control screen

- **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 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.

inBOX 24 / 20 vT 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, parameterizable 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 inBOX 24 / 20 vT 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 (ONLY inBOX 24 vT)

inBOX 24 vT implements **one Zennio thermostat** which can be enabled and configured independently.

Please refer to the specific “**Zennio Thermostat**” user manual (available in the inBOX 24 vT 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 (ONLY inBOX 24 vT)

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.

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*”.

- **Trigger Value:** sets the value (“0”, “1” or “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).

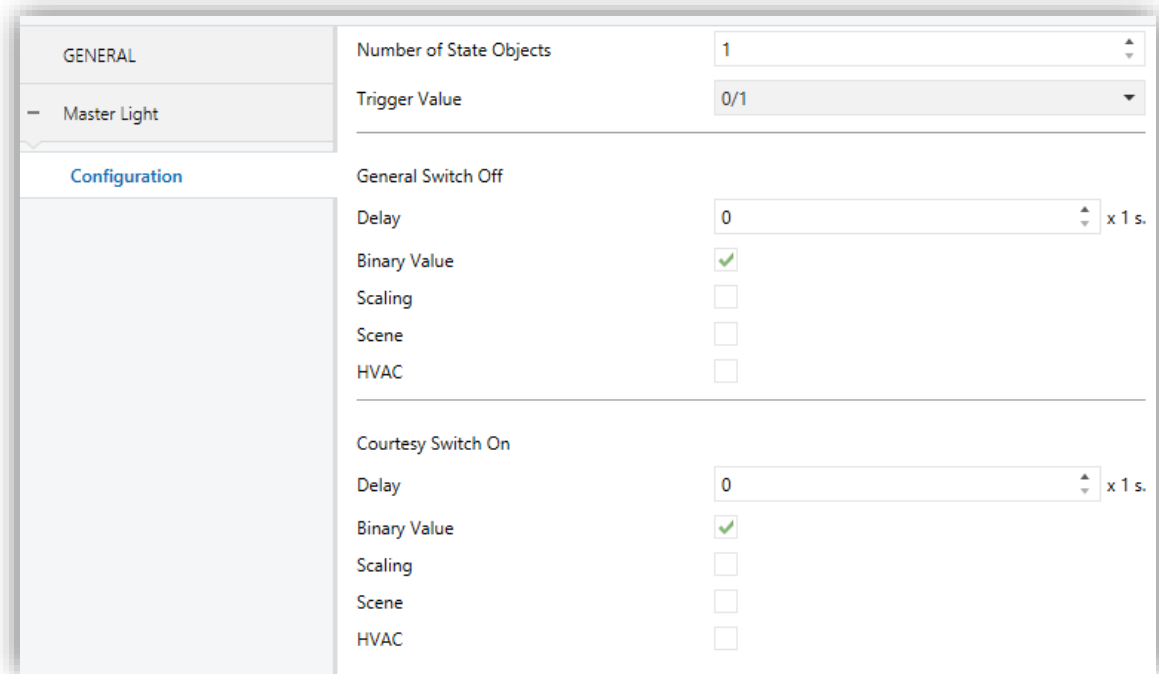


Figure 6. Sending of Indication objects on bus voltage recovery

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 7.

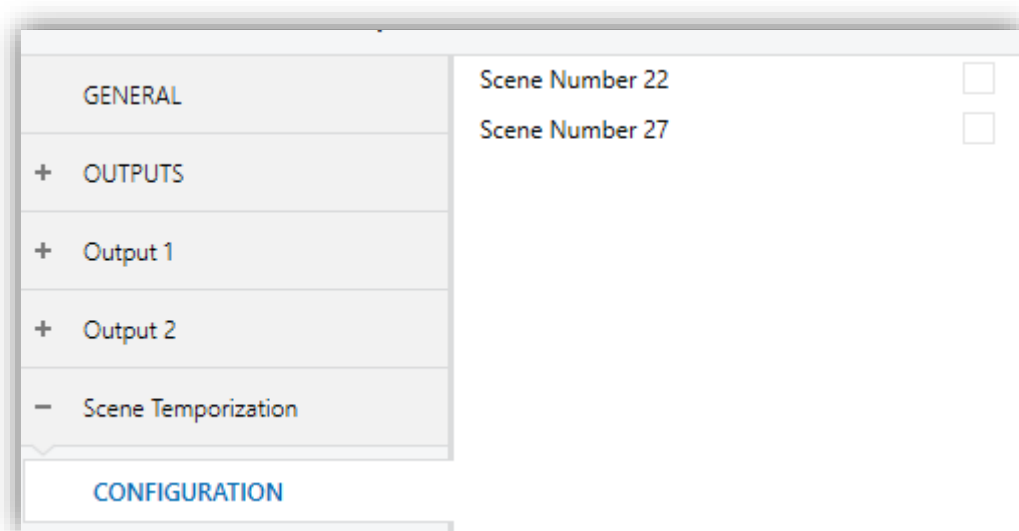


Figure 7. Scene temporisation

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.

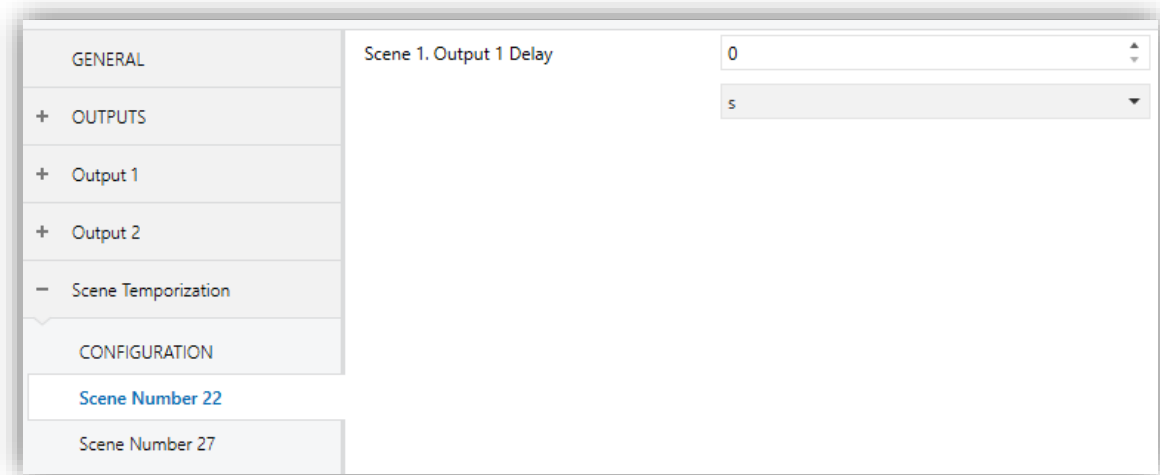


Figure 8. Configuration of the scene temporisation

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 INBOX 20 VT

- “**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.

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	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	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	1 Bit	O	CR-T-	DPT_BinaryValue	0/1	[Ox] On/Off (Status)	0=Output Off; 1=Output On
8, 19	1 Bit	I	C-W--	DPT_Enable	0/1	[Ox] Lock	0=Unlock; 1=Lock
9, 20	1 Bit	I	C-W--	DPT_Start	0/1	[Ox] Timer	0=Switch Off; 1=Switch On
10, 21	1 Bit	I	C-W--	DPT_Start	0/1	[Ox] Flashing	0=Stop; 1=Start
11, 22	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	1 Bit	I	C-W--	DPT_Ack	0/1	[Ox] Unfreeze Alarm	Alarm=0 + Unfreeze=1 => End Alarm
13, 24	1 Bit	O	CR-T-	DPT_State	0/1	[Ox] Warning Time (Status)	0=Normal; 1=Warning
14, 25	4 Bytes	I/O	CRWT-	DPT_LongDeltaTimeSec	-2147483648 - 2147483647	[Ox] Operating Time (s)	Time in Seconds
15, 26	2 Bytes	I/O	CRWT-	DPT_TimePeriodHrs	0 - 65535	[Ox] Operating Time (h)	Time in Hours
27	1 Byte	I	C-W--	DPT_SceneControl	0-63; 128-191	[Shutter] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
28	1 Bit	I	C-W--	DPT_UpDown	0/1	[CA] Move	0 = Raise; 1 = Lower
29	1 Bit	I	C-W--	DPT_Step	0/1	[CA] Stop/Step	0 = Stop/StepUp; 1 = Stop/StepDown

	1 Bit	I	C - W - -	DPT_Trigger	0/1	[CA] Stop	0 = Stop; 1 = Stop
30	1 Bit	I	C - W - -	DPT_Trigger	0/1	[CA] Switched Control	0, 1 = Up, Down or Stop, Depending on the Last Move
31	1 Bit	I	C - W - -	DPT_Enable	0/1	[CA] Lock	0 = Unlock; 1 = Lock
32	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Shutter Positioning	0% = Top; 100% = Bottom
33	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[CA] Shutter Position (Status)	0% = Top; 100% = Bottom
34	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Slats Positioning	0% = Open; 100% = Closed
35	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[CA] Slats Position (Status)	0% = Open; 100% = Closed
36	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Rising Relay (Status)	0 = Open; 1 = Closed
37	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Lowering Relay (Status)	0 = Open; 1 = Closed
38	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Movement (Status)	0 = Stopped; 1 = Moving
39	1 Bit	O	C R - T -	DPT_UpDown	0/1	[CA] Movement Direction (Status)	0 = Upward; 1 = Downward
40	1 Bit	I	C - W - -	DPT_Switch	0/1	[CA] Auto: On/Off	0 = On; 1 = Off
	1 Bit	I	C - W - -	DPT_Switch	0/1	[CA] Auto: On/Off	0 = Off; 1 = On
41	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Auto: On/Off (Status)	0 = On; 1 = Off
	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Auto: On/Off (Status)	0 = Off; 1 = On
42	1 Bit	I	C - W - -	DPT_UpDown	0/1	[CA] Auto: Move	0 = Raise; 1 = Lower
43	1 Bit	I	C - W - -	DPT_Step	0/1	[CA] Auto: Stop/Step	0 = Stop/StepUp; 1 = Stop/StepDown
	1 Bit	I	C - W - -	DPT_Step	0/1	[CA] Auto: Stop	0 = Stop; 1 = Stop
44	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Auto: Shutter Positioning	0% = Top; 100% = Bottom
45	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Auto: Slats Positioning	0% = Open; 100% = Closed
46	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[CA] Sunshine/Shadow	0 = Sunshine; 1 = Shadow
	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[CA] Sunshine/Shadow	0 = Shadow; 1 = Sunshine
47	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[CA] Cooling/Heating	0 = Heating; 1 = Cooling
	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[CA] Cooling/Heating	0 = Cooling; 1 = Heating
48	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[CA] Presence/No Presence	0 = Presence; 1 = No Presence
	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[CA] Presence/No Presence	0 = No Presence; 1 = Presence
49, 50	1 Bit	I	C - W - -	DPT_Alarm	0/1	[CA] Alarm x	0 = No Alarm; 1 = Alarm
	1 Bit	I	C - W - -	DPT_Alarm	0/1	[CA] Alarm x	0 = Alarm; 1 = No Alarm
51	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Unfreeze Alarm	Alarm1 = Alarm2 = No Alarm + Unfreeze (1) => End Alarm
52	1 Bit	I	C - W - -	DPT_Scene_AB	0/1	[CA] Move (Reversed)	0 = Lower; 1 = Raise
53	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 1	0 = No Action; 1 = Go to Position
54	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 2	0 = No Action; 1 = Go to Position
55	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 1 (Save)	0 = No Action; 1 = Save Current Position
56	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 2 (Save)	0 = No Action; 1 = Save Current

							Position
57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 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, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120	1 Bit	I	C - W - -	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)
121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152	1 Byte	I	C - W - -	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184	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_Tempo	-273, 00 - 670760, 00		
185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200	4 Bytes	I	C - W - -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230	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 -	DPT_Value_Temp	-273.00° - 670433.28°	[LF] Function x - Result	(2-Byte) Float
231, 233	4 Bytes	O	C R - T -	DPT_Value_4_Ucount	0 - 4294967295	[Relay x] Number of Switches	Number of Switches
232, 234	2 Bytes	O	C R - T -	DPT_Value_2_Ucount	0 - 65535	[Relay x] Maximum Switches per Minute	Maximum Switches per Minute

ANNEX II. COMMUNICATION OBJECTS INBOX 24 VT

- “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.

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	1 Byte	I	C-W--	DPT_SceneControl	0-63; 128-191	[Thermostat] Scene Input	Scene Value
6	2 Bytes	I	C-W--	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Temperature Source 1	External Sensor Temperature
7	2 Bytes	I	C-W--	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Temperature Source 2	External Sensor Temperature
8	2 Bytes	O	CR-T-	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Effective Temperature	Effective Control Temperature
9	1 Byte	I	C-W--	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode	1-Byte HVAC Mode
10	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
11	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
12	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
13	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
14	1 Bit	I	C-W--	DPT_Window_Door	0/1	[Tx] Window Status (Input)	0 = Closed; 1 = Open
15	1 Bit	I	C-W--	DPT_Trigger	0/1	[Tx] Comfort Prolongation	0 = Nothing; 1 = Timed Comfort
16	1 Byte	O	CR-T-	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode Status	1-Byte HVAC Mode

17	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Setpoint	Thermostat Setpoint Input
	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Basic Setpoint	Reference Setpoint
18	1 Bit	I	C - W - -	DPT_Step	0/1	[Tx] Setpoint Step	0 = Decrease Setpoint; 1 = Increase Setpoint
19	2 Bytes	I	C - W - -	DPT_Value_Tempd	-671088.64° - 670433.28°	[Tx] Setpoint Offset	Float Offset Value
20	2 Bytes	O	CR - T -	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Setpoint Status	Current Setpoint
21	2 Bytes	O	CR - T -	DPT_Value_Temp	-273.00° - 670433.28°	[Tx] Basic Setpoint Status	Current Basic Setpoint
22	2 Bytes	O	CR - T -	DPT_Value_Tempd	-671088.64° - 670433.28°	[Tx] Setpoint Offset Status	Current Setpoint Offset
23	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
24	1 Bit	I	C - W - -	DPT_Heat_Cool	0/1	[Tx] Mode	0 = Cool; 1 = Heat
25	1 Bit	O	CR - T -	DPT_Heat_Cool	0/1	[Tx] Mode Status	0 = Cool; 1 = Heat
26	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] On/Off	0 = Off; 1 = On
27	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] On/Off Status	0 = Off; 1 = On
28	1 Bit	I/O	CRW - -	DPT_Switch	0/1	[Tx] Main System (Cool)	0 = System 1; 1 = System 2
29	1 Bit	I/O	CRW - -	DPT_Switch	0/1	[Tx] Main System (Heat)	0 = System 1; 1 = System 2
30	1 Bit	I	C - W - -	DPT_Enable	0/1	[Tx] Enable/Disable Secondary System (Cool)	0 = Disable; 1 = Enable
31	1 Bit	I	C - W - -	DPT_Enable	0/1	[Tx] Enable/Disable Secondary System (Heat)	0 = Disable; 1 = Enable
32, 38	1 Byte	O	CR - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Cool)	PI Control (Continuous)
33, 39	1 Byte	O	CR - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Heat)	PI Control (Continuous)
	1 Byte	O	CR - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable	PI Control (Continuous)
34, 40	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	2-Point Control
	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	PI Control (PWM)
35, 41	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	2-Point Control
	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	PI Control (PWM)
	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	2-Point Control
	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	PI Control (PWM)
36, 42	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Cool)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
37, 43	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Heat)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
	1 Bit	O	CR - T -	DPT_Switch	0/1	[Tx] [Sx] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
44	1 Bit	I	C - W - -	DPT_Switch	0/1	[ML] Trigger	Trigger the Master Light Function
45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56	1 Bit	I	C - W - -	DPT_Switch	0/1	[ML] Status Object x	Binary Status

57	1 Bit	O	CR-T-	DPT_Switch	0/1	[ML] General Status	Binary Status
58	1 Bit		C--T-	DPT_Switch	0/1	[ML] General Switch Off: Binary Object	Switch Off Sending
59	1 Byte		C--T-	DPT_Scaling	0% - 100%	[ML] General Switch Off: Scaling	0-100%
60	1 Byte		C--T-	DPT_SceneControl	0-63; 128-191	[ML] General Switch Off: Scene	Scene Sending
61	1 Byte		C--T-	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[ML] General Switch Off: HVAC mode	Auto, Comfort, Standby, Economy, Building Protection
62	1 Bit		C--T-	DPT_Switch	0/1	[ML] Courtesy Switch On: Binary Object	Switch On Sending
63	1 Byte		C--T-	DPT_Scaling	0% - 100%	[ML] Courtesy Switch On: Scaling	0-100%
64	1 Byte		C--T-	DPT_SceneControl	0-63; 128-191	[ML] Courtesy Switch On: Scene	Scene Sending
65	1 Byte		C--T-	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[ML] Courtesy Switch On: HVAC mode	Auto, Comfort, Standby, Economy, Building Protection
66, 70, 74, 78	2 Bytes	O	CR-T-	DPT_Value_Temp	-273.00° - 670433.28°	[Ix] Current Temperature	Temperature Sensor Value
67, 71, 75, 79	1 Bit	O	CR-T-	DPT_Alarm	0/1	[Ix] Overcooling	0 = No Alarm; 1 = Alarm
68, 72, 76, 80	1 Bit	O	CR-T-	DPT_Alarm	0/1	[Ix] Overheating	0 = No Alarm; 1 = Alarm
69, 73, 77, 81	1 Bit	O	CR-T-	DPT_Alarm	0/1	[Ix] Probe Error	0 = No Alarm; 1 = Alarm
82, 88, 94, 100	1 Bit	I	C-W--	DPT_Enable	0/1	[Ix] Input Lock	0 = Unlock; 1 = Lock
83, 89, 95, 101	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-WT-	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)	[Ix] [Short Press] Brighter	Increase Brightness

				0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)			
	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-WT-	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	CRWT-	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
84, 90, 96, 102	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%
85, 91, 97, 103	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-WT-	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-WT-	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	CR-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
86, 92, 98, 104	1 Bit		C--T-	DPT_Trigger	0/1	[Ix] [Long Press/Release] Stop Shutter	Release -> Stop Shutter
87, 93, 99, 105	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
106	1 Byte	I	C-W--	DPT_SceneNumber	0 - 63	[Motion Detector] Scene Input	Scene Value
107	1 Byte		C--T-	DPT_SceneControl	0-63; 128-191	[Motion Detector] Scene Output	Scene Value
108, 137, 166, 195	1 Byte	O	CR-T-	DPT_Scaling	0% - 100%	[Ix] Luminosity	0-100%
109, 138, 167, 196	1 Bit	O	CR-T-	DPT_Alarm	0/1	[Ix] Open Circuit Error	0 = No Error; 1 = Open Circuit Error
110, 139, 168, 197	1 Bit	O	CR-T-	DPT_Alarm	0/1	[Ix] Short Circuit Error	0 = No Error; 1 = Short Circuit Error
111, 140, 169, 198	1 Byte	O	CR-T-	DPT_Scaling	0% - 100%	[Ix] Presence State (Scaling)	0-100%
112, 141, 170, 199	1 Byte	O	CR-T-	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] Presence State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
113, 142, 171, 200	1 Bit	O	CR-T-	DPT_Switch	0/1	[Ix] Presence State (Binary)	Binary Value
	1 Bit	O	CR-T-	DPT_Start	0/1	[Ix] Presence: Slave Output	1 = Motion Detected
114, 143, 172, 201	1 Bit	I	C-W--	DPT_Window_Door	0/1	[Ix] Presence Trigger	Binary Value to Trigger the Presence Detection
115, 144, 173, 202	1 Bit	I	C-W--	DPT_Start	0/1	[Ix] Presence: Slave Input	0 = Nothing; 1 = Detection from slave device
116, 145, 174, 203	2 Bytes	I	C-W--	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Waiting Time	0-65535 s.
117, 146, 175, 204	2 Bytes	I	C-W--	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Listening Time	1-65535 s.
118, 147, 176, 205	1 Bit	I	C-W--	DPT_Enable	0/1	[Ix] Presence: Enable	According to parameters
119, 148, 177, 206	1 Bit	I	C-W--	DPT_DayNight	0/1	[Ix] Presence: Day/Night	According to parameters
120, 149, 178, 207	1 Bit	O	CR-T-	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State	0 = Not Occupied; 1 = Occupied

121, 150, 179, 208	1 Bit	I	C - W - -	DPT_Start	0/1	[Ix] External Motion Detection	0 = Nothing; 1 = Motion detected by an external sensor
122, 127, 132, 151, 156, 161, 180, 185, 190, 209, 214, 219	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] [Cx] Detection State (Scaling)	0-100%
123, 128, 133, 152, 157, 162, 181, 186, 191, 210, 215, 220	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
124, 129, 134, 153, 158, 163, 182, 187, 192, 211, 216, 221	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix] [Cx] Detection State (Binary)	Binary Value
125, 130, 135, 154, 159, 164, 183, 188, 193, 212, 217, 222	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] [Cx] Enable Channel	According to parameters
126, 131, 136, 155, 160, 165, 184, 189, 194, 213, 218, 223	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix] [Cx] Force State	0 = No Detection; 1 = Detection
224, 235	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Ox] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
225, 236	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)
226, 237	1 Bit	O	C R - T -	DPT_BinaryValue	0/1	[Ox] On/Off (Status)	0=Output Off; 1=Output On
227, 238	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ox] Lock	0=Unlock; 1=Lock
228, 239	1 Bit	I	C - W - -	DPT_Start	0/1	[Ox] Timer	0=Switch Off; 1=Switch On
229, 240	1 Bit	I	C - W - -	DPT_Start	0/1	[Ox] Flashing	0=Stop; 1=Start
230, 241	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
231, 242	1 Bit	I	C - W - -	DPT_Ack	0/1	[Ox] Unfreeze Alarm	Alarm=0 + Unfreeze=1 => End Alarm
232, 243	1 Bit	O	C R - T -	DPT_State	0/1	[Ox] Warning Time (Status)	0=Normal; 1=Warning
233, 244	4 Bytes	I/O	C R W T -	DPT_LongDeltaTimeSec	-2147483648 - 2147483647	[Ox] Operating Time (s)	Time in Seconds
234, 245	2 Bytes	I/O	C R W T -	DPT_TimePeriodHrs	0 - 65535	[Ox] Operating Time (h)	Time in Hours
246	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Shutter] Scenes	0 - 63 (Execute 1 - 64); 128 - 191 (Save 1 - 64)
247	1 Bit	I	C - W - -	DPT_UpDown	0/1	[CA] Move	0 = Raise; 1 = Lower
248	1 Bit	I	C - W - -	DPT_Step	0/1	[CA] Stop/Step	0 = Stop/StepUp; 1 = Stop/StepDown
	1 Bit	I	C - W - -	DPT_Trigger	0/1	[CA] Stop	0 = Stop; 1 = Stop
249	1 Bit	I	C - W - -	DPT_Trigger	0/1	[CA] Switched Control	0, 1 = Up, Down or Stop,

							Depending on the Last Move
250	1 Bit	I	C - W - -	DPT_Enable	0/1	[CA] Lock	0 = Unlock; 1 = Lock
251	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Shutter Positioning	0% = Top; 100% = Bottom
252	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[CA] Shutter Position (Status)	0% = Top; 100% = Bottom
253	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Slats Positioning	0% = Open; 100% = Closed
254	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[CA] Slats Position (Status)	0% = Open; 100% = Closed
255	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Rising Relay (Status)	0 = Open; 1 = Closed
256	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Lowering Relay (Status)	0 = Open; 1 = Closed
257	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Movement (Status)	0 = Stopped; 1 = Moving
258	1 Bit	O	C R - T -	DPT_UpDown	0/1	[CA] Movement Direction (Status)	0 = Upward; 1 = Downward
259	1 Bit	I	C - W - -	DPT_Switch	0/1	[CA] Auto: On/Off	0 = On; 1 = Off
	1 Bit	I	C - W - -	DPT_Switch	0/1	[CA] Auto: On/Off	0 = Off; 1 = On
260	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Auto: On/Off (Status)	0 = On; 1 = Off
	1 Bit	O	C R - T -	DPT_Switch	0/1	[CA] Auto: On/Off (Status)	0 = Off; 1 = On
261	1 Bit	I	C - W - -	DPT_UpDown	0/1	[CA] Auto: Move	0 = Raise; 1 = Lower
262	1 Bit	I	C - W - -	DPT_Step	0/1	[CA] Auto: Stop/Step	0 = Stop/StepUp; 1 = Stop/StepDown
	1 Bit	I	C - W - -	DPT_Step	0/1	[CA] Auto: Stop	0 = Stop; 1 = Stop
263	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Auto: Shutter Positioning	0% = Top; 100% = Bottom
264	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[CA] Auto: Slats Positioning	0% = Open; 100% = Closed
265	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[CA] Sunshine/Shadow	0 = Sunshine; 1 = Shadow
	1 Bit	I	C - W T U	DPT_Scene_AB	0/1	[CA] Sunshine/Shadow	0 = Shadow; 1 = Sunshine
266	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[CA] Cooling/Heating	0 = Heating; 1 = Cooling
	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[CA] Cooling/Heating	0 = Cooling; 1 = Heating
267	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[CA] Presence/No Presence	0 = Presence; 1 = No Presence
	1 Bit	I	C - W T U	DPT_Occupancy	0/1	[CA] Presence/No Presence	0 = No Presence; 1 = Presence
268, 269	1 Bit	I	C - W - -	DPT_Alarm	0/1	[CA] Alarm x	0 = No Alarm; 1 = Alarm
	1 Bit	I	C - W - -	DPT_Alarm	0/1	[CA] Alarm x	0 = Alarm; 1 = No Alarm
270	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Unfreeze Alarm	Alarm1 = Alarm2 = No Alarm + Unfreeze (1) => End Alarm
271	1 Bit	I	C - W - -	DPT_Scene_AB	0/1	[CA] Move (Reversed)	0 = Lower; 1 = Raise
272	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 1	0 = No Action; 1 = Go to Position
273	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 2	0 = No Action; 1 = Go to Position
274	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 1 (Save)	0 = No Action; 1 = Save Current Position
275	1 Bit	I	C - W - -	DPT_Ack	0/1	[CA] Direct Positioning 2 (Save)	0 = No Action; 1 = Save Current Position
276, 277, 278, 279, 280, 281,	1 Bit	I	C - W - -	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)

282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307							
308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323	1 Byte	I	C - W - -	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339	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_Tempo	-273, 00 - 670760, 00		
340, 341, 342, 343, 344, 345, 346, 347	4 Bytes	I	C - W - -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
348, 349, 350, 351, 352, 353, 354, 355, 356, 357	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 -	DPT_Value_Temp	-273.00° - 670433.28°	[LF] Function x - Result	(2-Byte) Float



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