Flat Sensato

KNX Humidity and Temperature sensor for flush mounting

ZS-FSEN

Application Program Version: [1.2]
User Manual Version: [1.2]_a

www.zennio.com

USER MANUAL

CONTENT

DOCUMENT UPDATES

Version	Changes	Page(s)
[1.2]_a	**Changes in the application program:** • Update of the Logic Functions, Heartbeat, Binary Inputs, Motion Detector and Temperature Probe modules. • Inclusion of Humidity module. • Reorganization of ETS tabs and parameters.	-
[1.1]_a	**Changes in the application program**: • Communication object to enable/disable the LED notification. • Communication objects to set the high and low alarm limits.	-

1 INTRODUCTION

1.1 FLAT SENSATO

Flat Sensato is a sensor with a flat design to measure ambient temperature, relative humidity and to calculate dew point for the sending of humidity, temperature and condensation.

The most outstanding features and functions of the device are:

- Measurement of **dry air temperature**.
- Measurement of **relative air humidity** indoor.
- Calculation of **dew point temperature**.
- **Alarms** of maximum and minimum temperature and relative humidity.
- Condensation monitoring on surfaces.
- Relative humidity **LED notification.**
- **2** analogue/digital configurable **inputs**.
- **10** customisable, multi-operation **logic functions**
- **Heartbeat** or periodical “still-alive” notification.

1.2 INSTALLATION

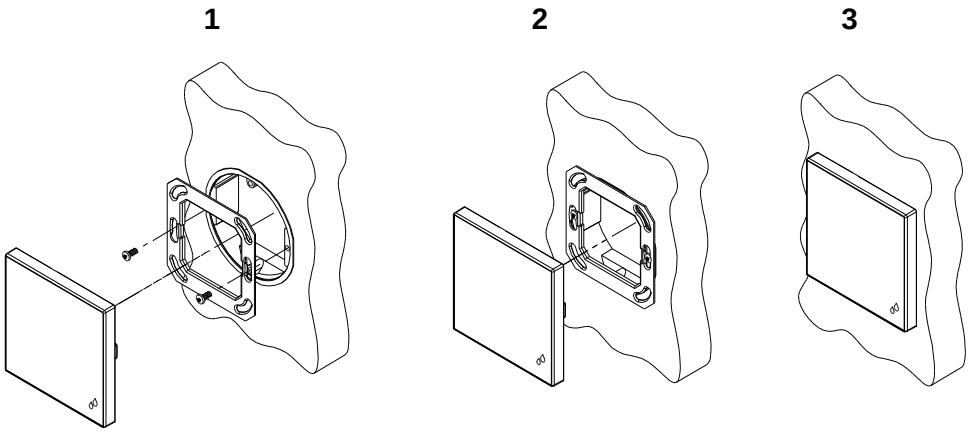

Figure 1. Installation

To install the device, it is first necessary to mount the metallic plate into a square/round standard appliance box through the suitable screws. Next, Flat Sensato is connected to the KNX bus through the corresponding terminal on the rear side of the device, and then the input terminal is as well connected to the rear of the device.

Once the input terminal and the KNX terminal are connected, the device can be easily mounted on the metallic plate by the action of the fixing clips.

Finally, it is advisable to check that the device is properly installed, and that only its profile becomes visible from above, from below and from both sides (the metallic plate should be completely hidden).

Figure 2 shows the connection outline of the device:

1. Humidity notification LED.
2. KNX connector.
3. Sensor.
4. Programming LED.
5. Programming Button.
6. Inputs connector.
7. Fixing clips.

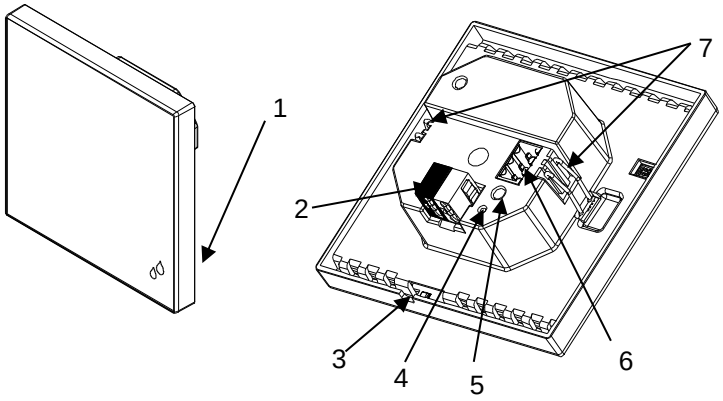

Figure 2. Schematic diagram

This device does not need any external supply, as it is powered through the KNX bus.

The programming button (5) can be pressed with the help of a thin screw to set the device into the **Programming Mode**. After a short press, the programming LED (4) will light in red. Note that if this button is held while plugging the device into the KNX bus, the device will enter the **Safe Mode**. The LED will then blink in red.

For detailed information about the technical features of the device, as well as on security and installation procedures, please refer to the device **Datasheet**, bundled within the original packaging of the device and also available at http://www.zennio.com.

2 CONFIGURATION

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.

2.1 GENERAL

From the "General" tab enabling additional functions available for the device is possible.

ETS PARAMETERISATION

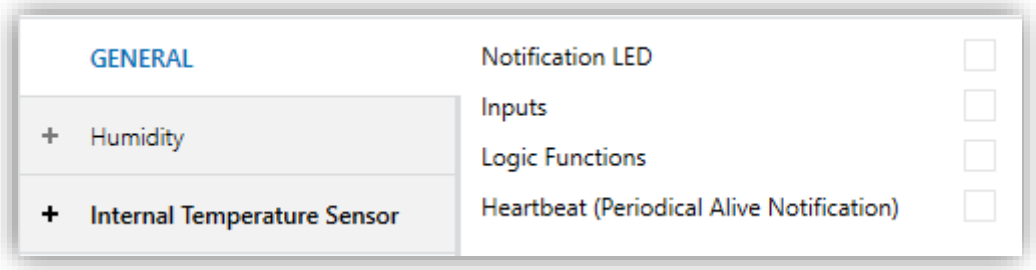

Figure 3 General settings.

- **Notification LED** [*disabled*/*enabled*][1]**:** enables or disables the "Notification LED" tab in the tree on the left, depending on whether this functionality is required or not. See section 2.4 for details.

- **Inputs** [*disabled*/*enabled*]**:** enables or disables the "Inputs" tab in the tree on the left, depending on whether the device will or will not be connected any external accessories. See section 2.5 for details.

- **Logic Functions** [*disabled*/*enabled*]**:** enables or disables the "Logic Functions" tab in the tree on the left, depending on whether this functionality is required or not. See section 2.6 for details.

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

- **Heartbeat (Periodical Alive Notification)** [*disabled/enabled*]**:** this parameter lets the integrator incorporate 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*).

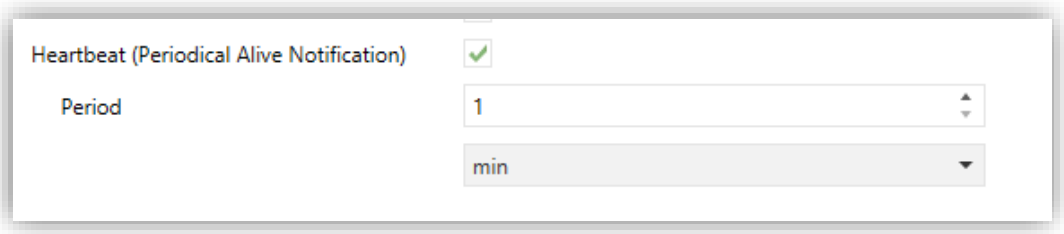

Figure 4. Heartbeat (Periodical Alive Notification)

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 HUMIDITY

Flat Sensato is capable of measure and monitor humidity measurements, as well as send **these values to the bus** and **report high / low humidity situations**. To that end, it is necessary to configure a set of parameters.

Please refer to the "**Humidity**" user manual, available in the Flat Sensato product section, at the Zennio website (www.zennio.com).

2.3 INTERNAL TEMPERATURE SENSOR

Flat Sensato is capable of measure and monitor temperature measurements, as well as send **these values to the bus** and **report high / low temperature situations**. To that end, it is necessary to configure a set of parameters.

ETS PARAMETERISATION

The object "**[Temp] Current Temperature**" (2 bytes) will appear by default. This object will report the current value of the temperature periodically or after a certain increment/decrement, according to the parameter configuration.

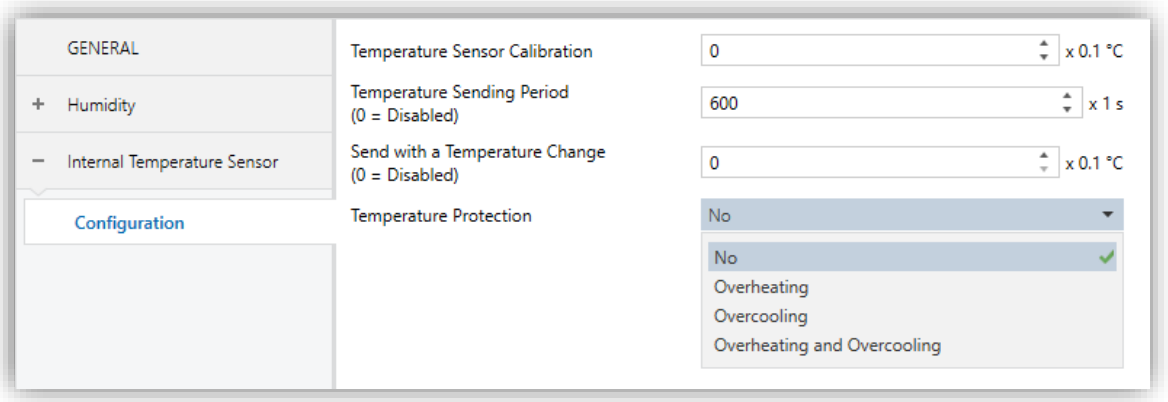

Figure 5. Temperature - Configuration

- **Temperature Sensor Calibration** [*-50…0…50*] [*0.1 ºC*]: defines an offset to be applied to the measurement received from the probe in tenths of a degree.

- **Temperature Sending Period** [*0…600…65535*] [*s*]: sets every how much time the value of the current temperature should be sent to the bus (through "**[Temp] Current Temperature**"), in second. The value "0" leaves this periodical sending disabled.

- **Send with a Temperature Change** [*0…255*] [*0.1 ºC*]: defines a threshold in tenths of a degree so that whenever a new reading of the current temperature is found to differ (from the last value sent to the bus) more than such threshold, an extra sending will take place. The value "0" leaves this sending with a temperature change disabled.

- **Temperature Protection** [*No / Overheating / Overcooling / Overheating and Overcooling*]: drop-down list with the following options:

  - No: no temperature protection is required.

  - Overheating: overheating protection is required. Two extra parameters will come up:

    - **Overheating Temp.** [*-30…40…125*] [*ºC*]: maximum temperature permitted, in ºC. Temperature readings greater than this will be considered overheat, and therefore a "1" will be periodically sent through object "**[Temp] Overheat**". Once the overheat is over, a "0" will be sent (once).

    - **Hysteresis** [*1…20…200*] [*0.1 ºC*]: dead *band* or threshold (in tenths of a degree) around the overheat temperature defined above. This dead band prevents the device from sending the overheat alarm and no-alarm over and over when the current temperature keeps fluctuating around the overheat limit (T): once the overheat alarm has been triggered, the no-alarm will not be sent until the current temperature is lower than that T minus the hysteresis. After that, if the current temperature reaches T again, the alarm will be re-sent.

  - Overcooling: overcooling protection is required. Two extra parameters (analogous to the above two) will come up:

    - **Overcooling Temp.** [*-30…10…125*] [*ºC*]: minimum temperature permitted, in ºC. Temperature readings lower than this will be considered overcool, and therefore a "1" will be periodically sent through object "**[Temp] Overcool**". After the overcool is over, a "0" will be sent (once).

    - **Hysteresis** [*1…20…200*] [*0.1 ºC*]: dead band or threshold (in tenths of a degree) around the overcooling temperature. As for the overheat, once the alarm has been triggered, the no-alarm will not be sent until the current temperature is greater than T plus the hysteresis. After that, if the current temperature reaches T again, the alarm will be re-sent.

- Overheating and Overcooling: both overheating and overcooling protection are required. The following three parameters will come up:

  - **Overheating Temp.**
  - **Overcooling Temp.**
  - **Hysteresis.**

  The three of them are analogous to those already explained separately.

2.4 NOTIFICATION LED

2.4.1 CONFIGURATION

Flat Sensato has a LED to notify, through colours, the ranges of the current humidity values. The colous to notify the humidity ranges can be two (green and yellow) or three (green, yellow and red).

It is possible to modify by parameter the humitidy thresholds of the range corresponding to each color. The following figure shows an example with the default threshold values:

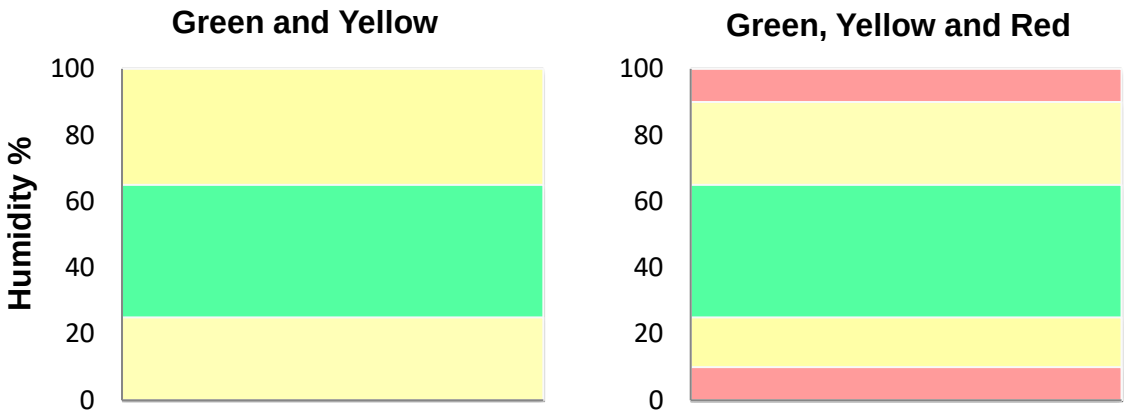

Figure 6. Default colors of Notification LED.

In addition, this notification can be activated or deactivated via the object "**[LED] Notification LED**" which is always available, even if the parameter is not enabled. When enabling it through the object, each threshold takes the default value.

ETS PARAMETERISATION

After enabling "**Notification LED**" (see section 2.1), a new tab will be incorporated into the tree on the left.

The parameters available in this tab are:

- **Colours Shown** [*Green and Yellow*/*Green, Yellow and Red*]: allows selecting whether the notification LED comprises two or three colours.

- **Red / Yellow / Green**: humidity value (0-100%) from which the notification LED will display the indicated colour. The limit values (0% and 100%) are not editable. Default values are shown in the following figures.

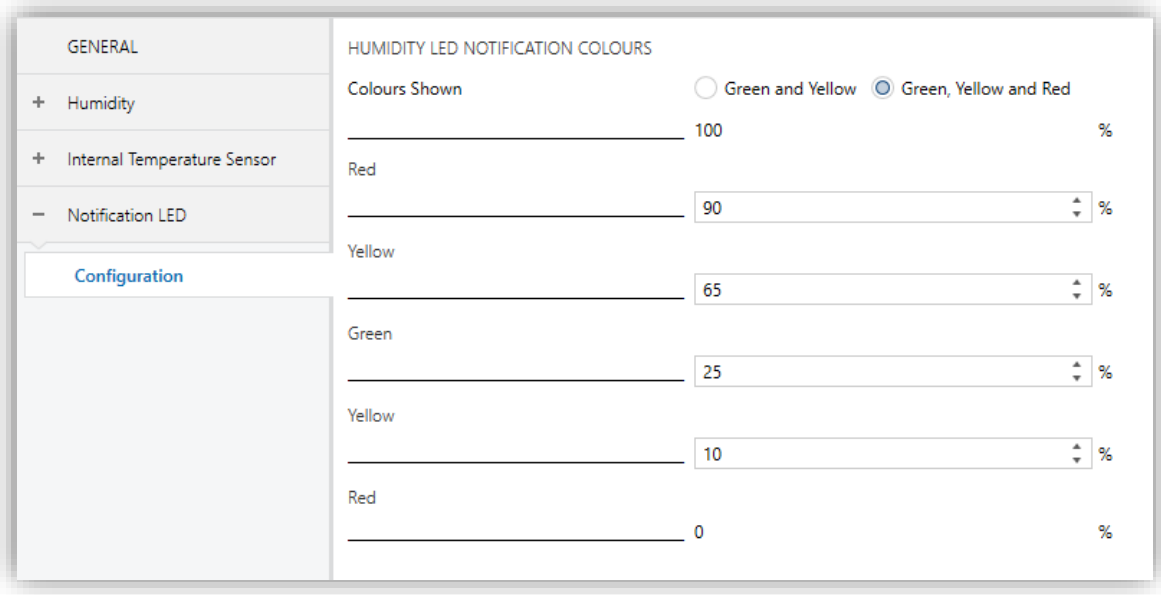

Figure 7. Notification LED – Green, Yellow and Red

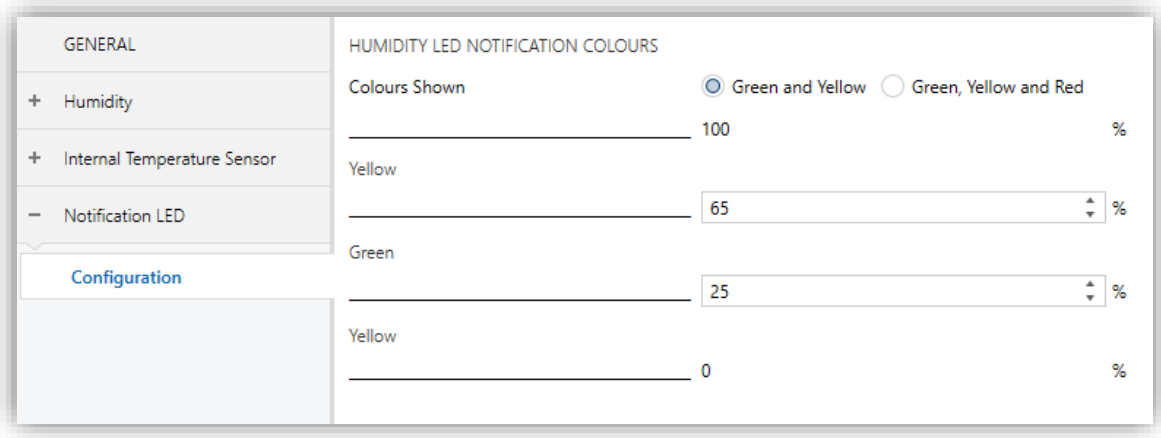

Figure 8. Notification LED – Green and Yellow

The threshold values should be set from highest to lowest (from top to bottom). If this indication is not met, default values will be taken. In addition, an alert message will be shown.

⚠ *Incorrect yellow threshold values.*
The default values will be downloaded in case of an incorrect parameterisation.

2.5 INPUTS

Flat Sensato incorporates **two 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 Flat Sensato.*

ETS PARAMETERISATION

When **Inputs** has been activated in the General parameters screen, the following drop-down lists will be available for the selection of the specific functions required.

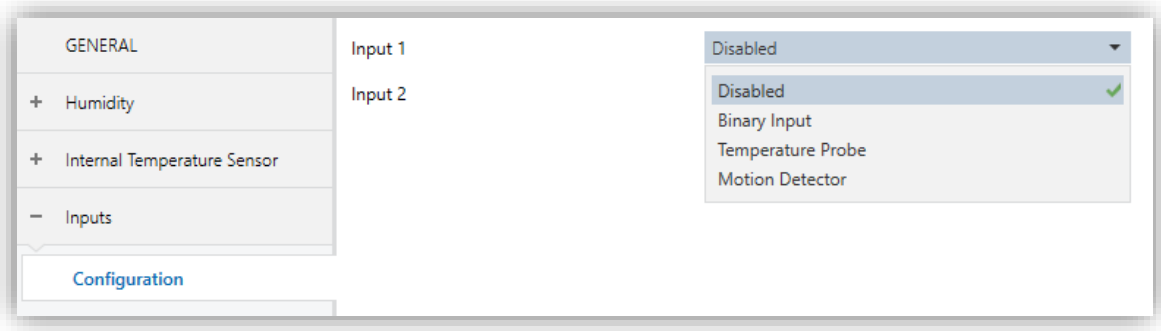

Figure 9. Inputs. Configuration.

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.

2.5.1 BINARY INPUTS

Please refer to the "**Binary Inputs**" user manual, available in the Flat Sensato product section, at the Zennio website (www.zennio.com).

2.5.2 TEMPERATURE PROBE

Please refer to the "**Temperature Probe**" user manual, available in the Flat Sensato product section, at the Zennio website (www.zennio.com).

2.5.3 MOTION DETECTOR

It is possible to connect motion detectors (models **ZN1IO-DETEC-P** and **ZN1IO-DETEC-X** from Zennio) to the input ports of Flat Sensato.

Please refer to the "**Motion Detector**" user manual, available in the Flat Sensato 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 Flat Sensato (may report inaccurate measurements if connected to this device).*
- *When connected to Flat Sensato, the rear micro-switch of model ZN1IO-DETEC-P should be set to position "**Type B**".*

2.6 LOGIC FUNCTIONS

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

Flat Sensato 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 in the Flat Sensato product section at the Zennio homepage, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

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.

Number	Size	I/O	Flags	Data type (DPT)	Functional Range	Name	Function
1	1 Bit		C T - - -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
2	1 Byte	I	C - - W -	DPT_Percent_V8	-12% - 12%	[Hum] Sensor Calibration	-12% ... 12%
3	2 Bytes	O	C T R - -	DPT_Value_Humidity	-671088.64 - 670760.96	[Hum] Current Humidity	Humidity Sensor Value
4	2 Bytes	O	C T R - -	DPT_Value_Temp	-273.00° - 670760.00°	[Hum] Dew Point Temperature	Dew Point Temperature Value
5	2 Bytes	I	C - - W -	DPT_Value_Humidity	-671088.64 - 670760.96	[Hum] High Humidity Alarm Threshold	Value of High Humidity Alarm Threshold
6	2 Bytes	I	C - - W -	DPT_Value_Humidity	-671088.64 - 670760.96	[Hum] Low Humidity Alarm Threshold	Value of Low Humidity Alarm Threshold
7	2 Bytes	I	C - - W -	DPT_Value_Temp	-273.00° - 670760.00°	[Hum] Surface Temperature	Input Surface Temperature Value
8	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Hum] High Humidity	0 = No Alarm; 1 = Alarm
9	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Hum] Low Humidity	0 = No Alarm; 1 = Alarm
10	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Hum] Condensation	0 = No Alarm; 1 = Alarm
11	1 Bit	I	C - - W -	DPT_Enable	0/1	[Led] Notification Led	0 = Disable; 1 = Enable
12	2 Bytes	O	C T R - -	DPT_Value_Temp	-273.00° - 670760.00°	[Internal Temp. Probe] Current Temperature	Temperature Sensor Value
13	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Internal Temp. Probe] Overcooling	0 = No Alarm; 1 = Alarm
14	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Internal Temp. Probe] Overheating	0 = No Alarm; 1 = Alarm
15	1 Byte	I	C - - W -	DPT_SceneNumber	0 - 63	[Motion Detector] Scene Input	Scene Value
16	1 Byte		C T - - -	DPT_SceneControl	0-63; 128-191	[Motion Detector] Scene Output	Scene Value
17, 46	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[Ix] Luminosity	0-100%
18, 47	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] Open Circuit Error	0 = No Error; 1 = Open Circuit Error
19, 48	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] Short Circuit Error	0 = No Error; 1 = Short Circuit Error
20, 49	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[Ix] Presence State (Scaling)	0-100%
21, 50	1 Byte	O	C T R - -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] Presence State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
22, 51	1 Bit	O	C T R - -	DPT_Occupancy	0/1	[Ix] Presence State (Binary)	Binary Value
	1 Bit	O	C T R - -	DPT_Ack	0/1	[Ix] Presence: Slave Output	1 = Motion Detected

23, 52	1 Bit	I	C - - W -	DPT_Window_Door	0/1	[Ix] Presence Trigger	Binary Value to Trigger the Presence Detection
24, 53	1 Bit	I	C - - W -	DPT_Ack	0/1	[Ix] Presence: Slave Input	0 = Nothing; 1 = Detection from slave device
25, 54	2 Bytes	I	C - - W -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Waiting Time	0-65535 s.
26, 55	2 Bytes	I	C - - W -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Listening Time	1-65535 s.
27, 56	1 Bit	I	C - - W -	DPT_Enable	0/1	[Ix] Presence: Enable	According to parameters
28, 57	1 Bit	I	C - - W -	DPT_DayNight	0/1	[Ix] Presence: Day/Night	According to parameters
29, 58	1 Bit	O	C T R - -	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State	0 = Not Occupied; 1 = Occupied
30, 59	1 Bit	I	C - - W -	DPT_Ack	0/1	[Ix] External Motion Detection	0 = Nothing; 1 = Motion detected by an external sensor
31, 36, 41, 60, 65, 70	1 Byte	O	C T R - -	DPT_Scaling	0% - 100%	[Ix] [Cx] Detection State (Scaling)	0-100%
32, 37, 42, 61, 66, 71	1 Byte	O	C T R - -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] [Cx] Detection State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
33, 38, 43, 62, 67, 72	1 Bit	O	C T R - -	DPT_Switch	0/1	[Ix] [Cx] Detection State (Binary)	Binary Value
34, 39, 44, 63, 68, 73	1 Bit	I	C - - W -	DPT_Enable	0/1	[Ix] [Cx] Enable Channel	According to parameters
35, 40, 45, 64, 69, 74	1 Bit	I	C - - W -	DPT_Switch	0/1	[Ix] [Cx] Force State	0 = No Detection; 1 = Detection
75, 81	1 Bit	I	C - - W -	DPT_Enable	0/1	[Ix] Input Lock	0 = Unlock; 1 = Lock
76, 82	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) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Brighter	Increase Brightness

	4 Bit		C T - - -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Darker	Decrease Brightness
	4 Bit		C T - - -	DPT_Control_Dimming	0x0 (Stop) 0x1 (Dec. by 100%) ... 0x7 (Dec. by 1%) 0x8 (Stop) 0xD (Inc. by 100%) ... 0xF (Inc. by 1%)	[Ix] [Short Press] Brighter/Darker	Switch Bright/Dark
	1 Bit		C T - - -	DPT_Switch	0/1	[Ix] [Short Press] Light On	Sending of 1 (On)
	1 Bit		C T - - -	DPT_Switch	0/1	[Ix] [Short Press] Light Off	Sending of 0 (Off)
	1 Bit	I	C 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 T R 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	-671088.64 - 670760.96	[Ix] [Short Press] Constant Value (Float)	Float Value
77, 83	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%
78, 84	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	0x0 (Stop)	[Ix] [Long Press] Brighter	Long Pr. -> Brighter; Release -> Stop

					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] [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 T - W -	DPT_Switch	0/1	[Ix] [Long Press] Light On/Off	Switching 0/1
	1 Byte		C T - - -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Run Scene	Sending of 0 - 63
	1 Byte		C T - - -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Save Scene	Sending of 128 - 191
	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] [Switch/Sensor] Alarm: Breakdown or Sabotage	1 = Alarm; 0 = No Alarm
	2 Bytes		C T - - -	9.xxx	-671088.64 - 670760.96	[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
79, 85	1 Bit		C T - - -	DPT_Trigger	0/1	[Ix] [Long Press/Release] Stop Shutter	Release -> Stop Shutter
80, 86	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
87, 91	2 Bytes	O	C T R - -	DPT_Value_Temp	-273.00° - 670760.00°	[Ix] Current Temperature	Temperature Sensor Value
88, 92	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] Overcooling	0 = No Alarm; 1 = Alarm
89, 93	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] Overheating	0 = No Alarm; 1 = Alarm

90, 94	1 Bit	O	C T R - -	DPT_Alarm	0/1	[Ix] Probe Error	0 = No Alarm; 1 = Alarm
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, 121, 122, 123, 124, 125, 126	1 Bit	I	C - - W -	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)
127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142	1 Byte	I	C - - W -	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158	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		
159, 160, 161, 162, 163, 164, 165, 166	4 Bytes	I	C - - W -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
167, 168, 169, 170, 171, 172, 173, 174, 175, 176	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	-2147483648 - 2147483647	[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	-32768 - 32767	[LF] Function x - Result	(2-Byte) Signed
	2 Bytes	O	C T R - -	DPT_Value_Temp	-273.00° - 670760.00°	[LF] Function x - Result	(2-Byte) Float

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