

RailQUAD 4 / RailQUAD 6
RailQUAD 8 v2 / RailQUAD 12

Analogue/Digital Multifunction Input Module for DIN rail

ZIORQ4 / ZIORQ6 / ZIORQ8V2 / ZIORQ12

Application program version: [1.3]
User manual edition: [1.3]_a

www.zennio.com

USER MANUAL

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DOCUMENT UPDATES

Version	Changes
[1.3]_a	**Changes in the application program**: • RTD temperature sensor functionality has been added.
[1.2]_a	**Changes in the application program**: • Improvement in the internal calibration mechanism of PT1000-type temperature sensor inputs.

1 INTRODUCTION

1.1 RAILQUAD

RailQUAD 4, **6**, **8 v2** and **12** are an analogue / digital input modules from **Zennio** featuring eight separate inputs, designed for DIN-rail mounting, each configurable as:

- **Binary Input.**
- **Temperature probe**.
- **Motion detector.**

Moreover, **RailQUAD** implements:

- **4** (only RailQUAD 4) **or 6 independent thermostats**
- **10 customisable multi-operation logic functions.**
- **Heartbeat** or periodical “still-alive” notification.
- **KNX Security.** For detailed information on the functionality and configuration of KNX security, please refer to the specific user manual, “KNX Security Guide”, available in the product section of the Zennio website (www.zennio.com).

1.2 STATUS LEDS

RailQUAD provides status indicator LEDs, each associated with an input. The behaviour of these LEDs depends on the function for which each of the analogue **/** digital inputs is configured:

- **Binary input**: the LED will remain on when the input circuit is closed and will turn off when the circuit is open. Using the **LED binary input X** parameter, you can choose whether the LED behaves as described above or in the opposite way. In case the input is configured as Switch/Sensor with security, the LED will flash if the input is in alarm.

- **Temperature probe:** the LED will remain illuminated when the temperature sensor is connected. However, when a probe error is detected (i.e. an open circuit error, short circuit, overheating or overcooling), the LED will start flashing.

- **Motion detector:** The LED shall remain off in normal operation and shall light up when a detection occurs. In case of an error (short circuit or open circuit), the LED will start flashing.

2 CONFIGURATION

2.1 GENERAL

Following the importation of the relevant database into ETS and the addition of the device to the desired project topology, the configuration process is initiated by accessing the device parameters tab.

ETS PARAMETERISATION

The only screen that can be parameterised by default is the General screen. From this screen you can enable/disable all the necessary functions.

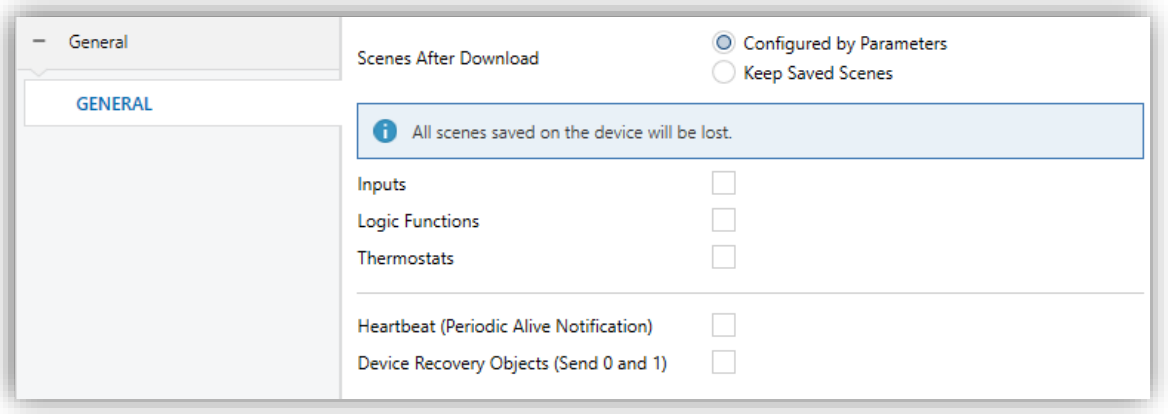


Figure 1 General.

- **Scenes after Download** [*Configured by parameters / Keep saved scenes*][1]: allows defining whether the value of the scenes is the configured by parameter or whether the previously saved value is kept after download.

  Note: *if "Keep Saved Scenes" option has been configured, but it is the first download of the device or a different version from the current one, the values configured by parameter will be adopted. If new scenes are added in successive downloads, it will be necessary to perform a download by checking the option "Configured by Parameters" to ensure the correct operation of these scenes.*

- **Inputs** [*disabled / enabled*]: enables or disables the "Inputs" tab on the left menu. See section 2.2 for more details.

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

- **Logic functions** [*disabled / enabled*]: enables or disables the "Logic Functions" tab on the left menu. See section 2.3 for more details.

- **Thermostats** [*disabled / enabled*]: enables or disables the "Thermostats" tab on the left menu. See section 2.4 for more details.

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

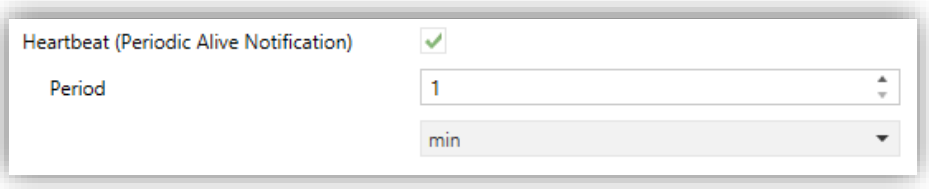


Figure 2 Heartbeat (Periodical Alive Notification).

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.*

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

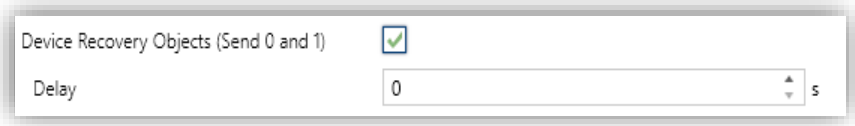


Figure 3. Device Recovery Objects.

Note: *after download or bus failure, the sending takes place with a delay of up to 6,35 seconds plus the parameterised delay, to prevent bus overload.*

2.2 INPUTS

RailQUAD incorporates **analogue/digital inputs**, each of which can be configured as:

- **Binary input**, for connection of a push button, a switch/sensor or a pulse counter.

- **Temperature probe**, to connect a Zennio temperature sensor.
- **Motion detector**, to connect a Zennio motion/light sensor.

2.2.1 CONFIGURATION

After enabling in the general tab, the input functionality is shown in the tree on the left-hand side, the following screen is shown:

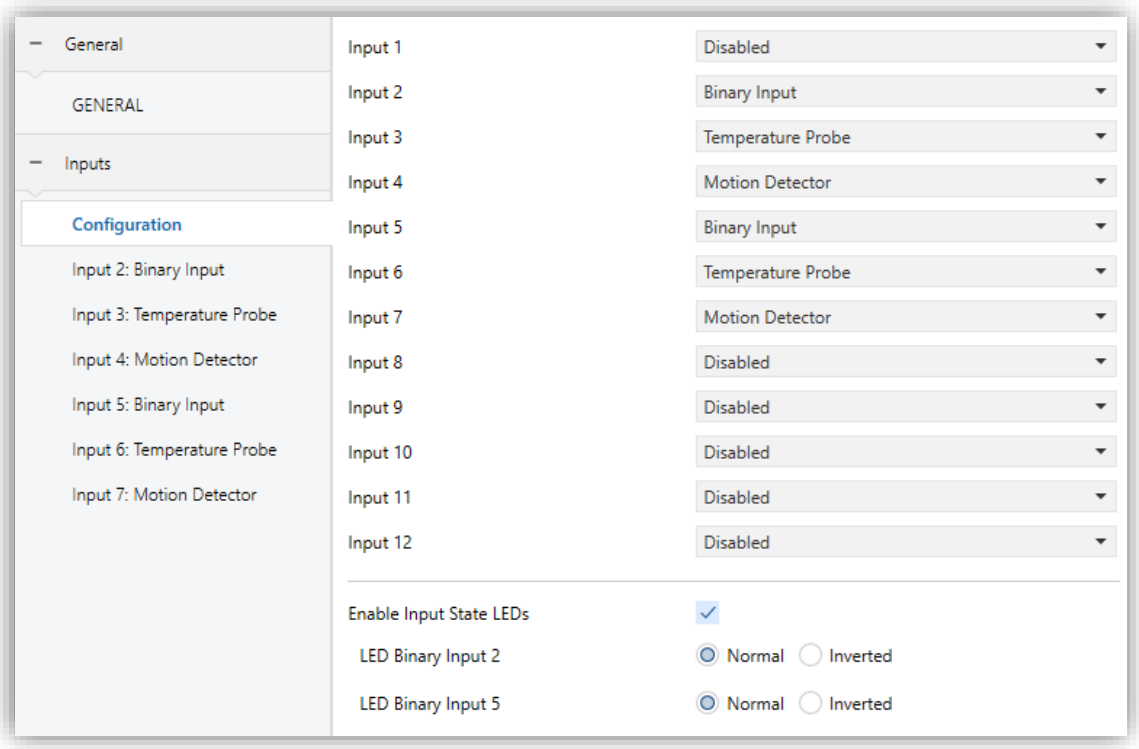


Figure 4. Inputs Configuration.

- **Input X** [*Disabled / Binary input / Temperature probe / Motion detector*]: sets the type of input "x". If this input is not needed, it can be left as "Disabled". If any of the inputs are enabled, the following parameter will be displayed:

  - **Enable Input State LEDs** [*disabled / enabled*]: enables or disables the status LEDs for the inputs. If an input is selected as a binary input, the following parameter is displayed:

    - **LED Binary Input x** [*Normal / Inverted*]: allows you to configure how the indicator associated with that input will behave. See section 1.2 for more details.

2.2.2 BINARY INPUT

Please refer to the "**Binary Inputs**" user manual, available within the RailQUAD product section at www.zennio.com.

2.2.3 TEMPERATURE PROBE

Please refer to the "**Temperature Probe**" user manual, available within the RailQUAD product section at www.zennio.com.

2.2.3.1 PT1000 PROBE

RailQUAD incorporates PT1000 probe as a parameterisable probe type. When *PT1000 Probe* option is selected, the following parameters will be displayed:

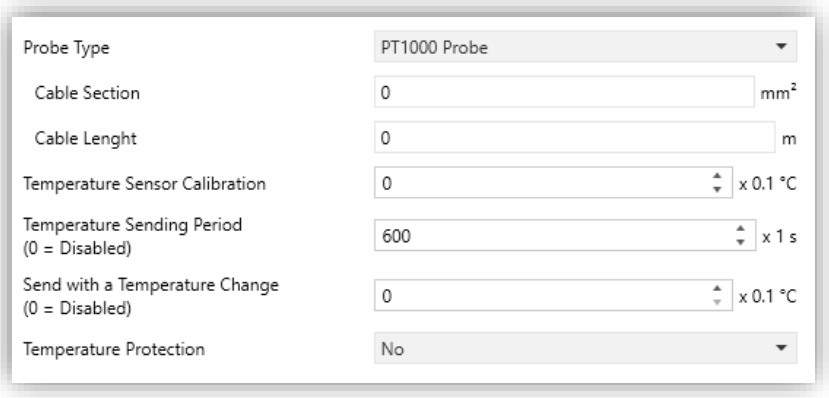


Figure 5. PT1000 Probe.

- **Cable Section** [*0,00…1.00*][mm²]: defines the section of the cable used to connect the PT1000 probe.
- **Cable Length** [*0…30*][m]: defines the cable length between the input and the PT1000 probe.

  Note: *these two parameters allow a calibration to be performed so that the temperature value measured corresponds to the real value.*

2.2.3.2 RTD PROBE

RailQUAD allows you to configure an input for connecting a custom RTD sensor.

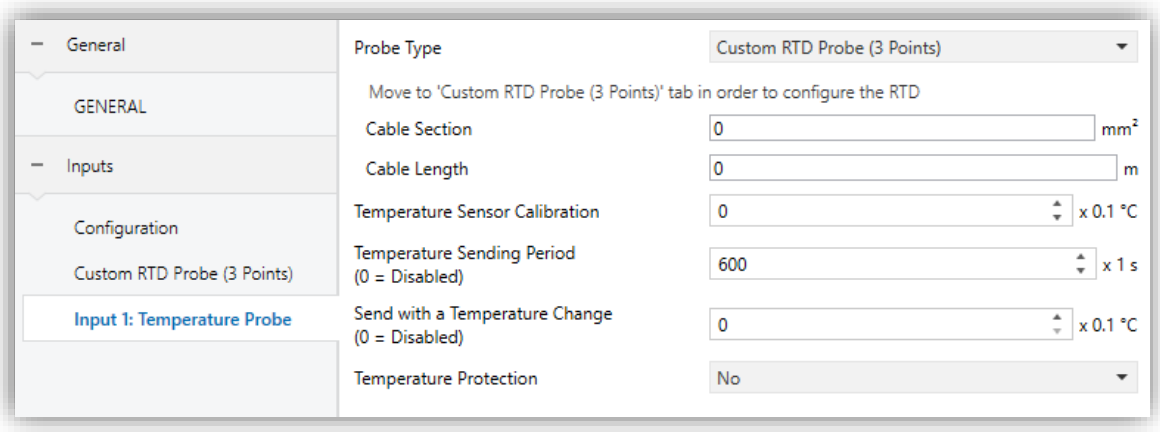


Figure 6. RTD Probe

- **Cable Section** [*0,00…1.00*][mm^2]: defines the section of the cable used to connect the RTD probe.

- **Cable Length** [*0…30*][m]: defines the cable length between the input and the RTD probe.

The relationship between temperature and probe resistance is defined by the values provided by the manufacturer. When you select “Custom RTD Probe (3 Point)” as the probe type, an additional tab is enabled, displaying the following parameters:

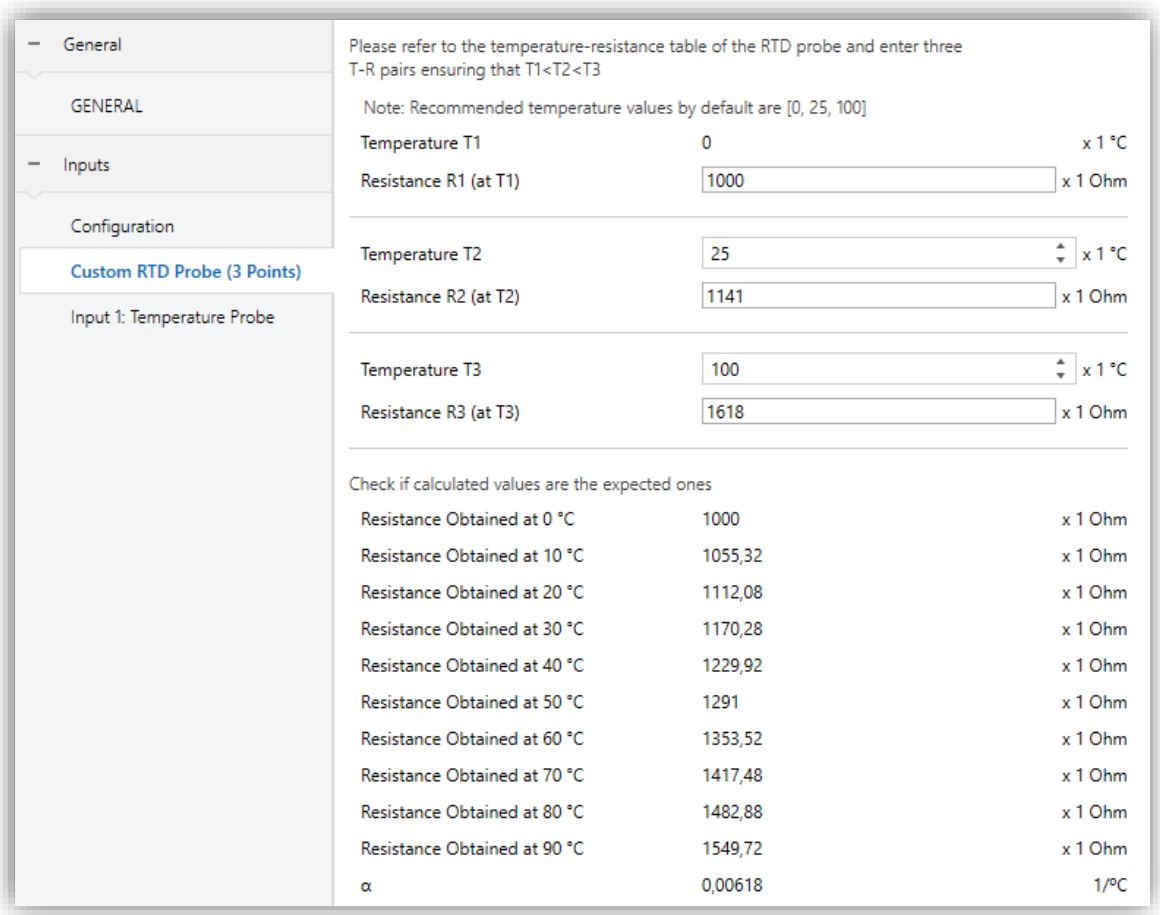


Figure 7. Custom RTD Probe (3 Points)

- **Temperature Tx** *[-55…150]*[°C]: defines the temperature corresponding to the resistance value defined by the following parameter. Temperature T1 remains fixed at 0 °C.

- **Resistance Rx (at Tx)** [*0…268435456*][Ω]: defines the resistance of the probe at the corresponding temperature Tx.

For more information about the other available parameters, please refer to the "**Temperature Probe**" user manual, available within the RailQUAD product section at www.zennio.com.

2.2.4 MOTION DETECTOR

Please refer to the "**Motion Detector**" user manual, available within the RailQUAD product section at www.zennio.com.

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.

RailQUAD can implement **up to 10 different and independent functions**, each of them entirely customisable and consisting of **up to 4 consecutive operations each**.

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

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

2.4 THERMOSTATS

RailQUAD implements **4 or 6 Zennio thermostats** which can be enabled and configured independently.

Please refer to the specific "Zennio Thermostat" user manual available under the 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	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
2	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 0
3	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 1
4, 13, 22, 31, 40, 49, 58, 67, 76, 85, 94, 103	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Input Lock	0 = Unlock; 1 = Lock
5, 14, 23, 32, 41, 50, 59, 68, 77, 86, 95, 104	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Short Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Brighter	Increase Brightness
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Brighter/Darker	Switch Bright/Dark
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light Off	Sending of 0 (Off)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Save Scene	Sending of 128 - 191

	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Short Press] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Short Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Short Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light On/Off	0/1
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Brighter	Increase Brightness
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Brighter/Darker	Switch Bright/Dark
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Rising Edge] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Rising Edge] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Integer)	0 - 255

	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Ack	0/1	[Ix] [Pulse Counter] Counter	Send 1
	1 Byte	O	C R - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Pulse Counter] Counter	Number of Pulses
	2 Bytes	O	C R - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Pulse Counter] Counter	Number of Pulses
	2 Bytes	O	C R - T -	DPT_Power	-671088.64 - 670433.28 kW	[Ix] [Pulse Counter] Counter	Power (kW)
	2 Bytes	O	C R - T -	DPT_Value_Volume_Flow		[Ix] [Pulse Counter] Counter	Flow (l/h)
	4 Bytes	O	C R - T -	DPT_Value_4_Ucount	0 - 4294967295	[Ix] [Pulse Counter] Counter	Number of Pulses
	4 Bytes	O	C R - T -	DPT_Flow_Rate	-2147483648 – 2147483647 (m3/h)	[Ix] [Pulse Counter] Counter	Flow Rate (m3/h)
	4 Bytes	O	C R - T -	DPT_ActiveEnergy	0 - 2147483647	[Ix] [Pulse Counter] Counter	Energy (Wh)
	4 Bytes	O	C R - T -	DPT_ActiveEnergy_kWh	0 - 2147483647	[Ix] [Pulse Counter] Counter	Energy (kWh)
	4 Bytes	O	C R - T -	DPT_Value_Power	-3.4E+38 W - 3.4E+38 W	[Ix] [Pulse Counter] Counter	Power (W)
	4 Bytes	O	C R - T -	DPT_Value_Volume		[Ix] [Pulse Counter] Counter	Volume (m3)
	1 Bit	I/O	C R W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] Edge	0/1
6, 15, 24, 33, 42, 51, 60, 69, 78, 87, 96, 105	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%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0/1 Switching (Immediate Object)	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0 (Immediate Object)	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 1 (Immediate Object)	Sending of 1
	1 Bit	I/O	C R W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] Edge (Immediate Object)	0/1
7, 16, 25, 34, 43, 52, 61, 70, 79, 88, 97, 106	1 Bit	I	C - W - -	DPT_Reset	0/1	[Ix] [Pulse Counter] Reset	0 = No Action; 1 = Reset
	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] [Switch/Sensor] Alarm: Breakdown or Sabotage	1 = Alarm; 0 = No Alarm
8, 17, 26, 35, 44, 53, 62, 71, 80, 89, 98, 107	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Double Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Up Shutter	Sending of 0 (Up)

	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Brighter	Increase Brightness
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Brighter/Darker	Switch Bright/Dark
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light On/Off	0/1
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Double Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Double Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Double Press] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Double Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Double Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0	Sending of 0
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 1	Sending of 1
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Brighter	Increase Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Brighter/Darker	Switch Bright/Dark
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Switch/Sensor] [Falling Edge]	Float Value

						Constant Value (Float)	
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Integer)	0 - 65535
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Percentage)	0% - 100%
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Darker	Decrease Brightness
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Down Shutter	Sending of 1 (Down)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Up Shutter	Sending of 0 (Up)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Falling Edge] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Falling Edge] Save Scene	Sending of 128 - 191
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0 (Immediate Object)	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 1 (Immediate Object)	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge]	Switching 0/1

						0/1 Switching (Immediate Object)	
10, 19, 28, 37, 46, 55, 64, 73, 82, 91, 100, 109	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Long Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Brighter	Long Pr. -> Brighter; Release -> Stop
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Darker	Long Pr. -> Darker; Release -> Stop
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Brighter/Darker	Long Pr. -> Brighter/Darker; Release -> Stop
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light On/Off	0/1
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Long Press] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Long Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Long Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Triple Press] Save Scene	Sending of 128 - 191

	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Triple Press] Run Scene	Sending of 0 - 63
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light Off	Sending of 0 (Off)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Darker	Decrease Brightness
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Triple Press] Constant Value (Integer)	0 - 65535
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Triple Press] Constant Value (Integer)	0 - 255
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Triple Press] Constant Value (Float)	Float Value
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Brighter/Darker	Switch Bright/Dark
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Brighter	Increase Brightness
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Triple Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] 0	Sending of 0
11, 20, 29, 38, 47, 56, 65, 74, 83, 92, 101, 110	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
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Dimming Status (Input)	0% - 100%
12, 21, 30, 39, 48, 57, 66, 75, 84, 93, 102, 111	1 Bit	O	C - - T -	DPT_Trigger	0/1	[Ix] [Long Press/Release] Stop Shutter	Release -> Stop Shutter
112, 116, 120, 124, 128, 132, 136, 140, 144, 148, 152, 156	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Ix] Current Temperature	Temperature Sensor Value
113, 117, 121, 125, 129, 133, 137, 141, 145, 149, 153, 157	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Overcooling	0 = No Alarm; 1 = Alarm

114, 118, 122, 126, 130, 134, 138, 142, 146, 150, 154, 158	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Overheating	0 = No Alarm; 1 = Alarm
115, 119, 123, 127, 131, 135, 139, 143, 147, 151, 155, 159	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Probe Error	0 = No Alarm; 1 = Alarm
160	1 Byte	I	C - W - -	DPT_SceneNumber	0 - 63	[Motion Detector] Scene Input	Scene Value
161	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Motion Detector] Scene Output	Scene Value
162, 199, 236, 273, 310, 347, 384, 421, 458, 495, 532, 569	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Luminosity	0 - 100%
163, 200, 237, 274, 311, 348, 385, 422, 459, 496, 533, 570	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Open Circuit Error	0 = No Error; 1 = Open Circuit Error
164, 201, 238, 275, 312, 349, 386, 423, 460, 497, 534, 571	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Short Circuit Error	0 = No Error; 1 = Short Circuit Error
165, 202, 239, 276, 313, 350, 387, 424, 461, 498, 535, 572	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Presence State (Scaling)	0 - 100%
166, 203, 240, 277, 314, 351, 388, 425, 462, 499, 536, 573	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] Presence State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
167, 204, 241, 278, 315, 352, 389, 426, 463, 500, 537, 574	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix] Presence State (Binary)	Binary Value
	1 Bit	O	C R - T -	DPT_Start	0/1	[Ix] Presence: Slave Output	1 = Motion Detected
168, 205, 242, 279, 316, 353, 390, 427, 464, 501, 538, 575	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Ix] Presence Trigger	Binary Value to Trigger the Presence Detection
169, 206, 243, 280, 317, 354, 391, 428, 465, 502, 539, 576	1 Bit	I	C - W - -	DPT_Start	0/1	[Ix] Presence: Slave Input	0 = Nothing; 1 = Detection from slave device
170, 207, 244, 281, 318, 355, 392, 429, 466, 503, 540, 577	2 Bytes	I/O	C R W - -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Waiting Time	0 - 65535 s
171, 208, 245, 282, 319, 356, 393, 430, 467, 504, 541, 578	2 Bytes	I/O	C R W - -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Listening Time	1 - 65535 s
172, 209, 246, 283, 320, 357, 394, 431, 468, 505, 542, 579	2 Bytes	I/O	C R W - -	DPT_TimePeriodMin	0 - 65535	[Ix] Presence: Safety Time	0 - 1440 min
173, 210, 247, 284, 321, 358, 395, 432, 469, 506, 543, 580	1 Byte	I/O	C R W - -	DPT_Value_1_Ucount	0 - 255	[Ix] Presence: Number of Detections of the Filter	2 - 5
174, 211, 248, 285, 322,	1 Byte	I/O	C R W - -	DPT_Value_1_Ucount	0 - 255	[Ix] Presence: Filter Detection	15 - 60 s

359, 396, 433, 470, 507, 544, 581						Window	
175, 212, 249, 286, 323, 360, 397, 434, 471, 508, 545, 582	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Presence: Enable	0 = Disable; 1 = Enable
	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Presence: Enable	0 = Enable; 1 = Disable
176, 213, 250, 287, 324, 361, 398, 435, 472, 509, 546, 583	1 Bit	I/O	C R W - -	DPT_DayNight	0/1	[Ix] Presence: Day/Night	0 = Day; 1 = Night
	1 Bit	I/O	C R W - -	DPT_DayNight	0/1	[Ix] Presence: Day/Night	0 = Night; 1 = Day
177, 214, 251, 288, 325, 362, 399, 436, 473, 510, 547, 584	1 Bit	O	C R - T -	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State (Master Output)	0 = Not Occupied; 1 = Occupied
	1 Bit	I	C - W - -	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State (Master Input)	0 = Not Occupied; 1 = Occupied
178, 215, 252, 289, 326, 363, 400, 437, 474, 511, 548, 585	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix] Presence: Access Guest/Employee	0 = Guest; 1 = Employee
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix] Presence: Access Guest/Employee	0 = Employee; 1 = Guest
179, 216, 253, 290, 327, 364, 401, 438, 475, 512, 549, 586	1 Bit	I	C - W - -	DPT_Bool	0/1	[Ix] Presence: Sold/Unsold Room	0 = Unsold; 1 = Sold
	1 Bit	I	C - W - -	DPT_Bool	0/1	[Ix] Presence: Sold/Unsold Room	0 = Sold; 1 = Unsold
180, 217, 254, 291, 328, 365, 402, 439, 476, 513, 550, 587	1 Bit	I	C - W - -	DPT_Start	0/1	[Ix] External Motion Detection	0 = Nothing; 1 = Motion detected by an external sensor
181, 187, 193, 218, 224, 230, 255, 261, 267, 292, 298, 304, 329, 335, 341, 366, 372, 378, 403, 409, 415, 440, 446, 452, 477, 483, 489, 514, 520, 526, 551, 557, 563, 588, 594, 600	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix][Cx] Detection State (Scaling)	0 - 100%
182, 188, 194, 219, 225, 231, 256, 262, 268, 293, 299, 305, 330, 336, 342, 367, 373, 379, 404, 410, 416, 441, 447, 453, 478, 484, 490, 515, 521, 527, 552, 558, 564, 589, 595, 601	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
183, 189, 195, 220, 226, 232, 257, 263, 269, 294, 300, 306, 331, 337, 343, 368, 374, 380, 405, 411, 417, 442, 448, 454, 479, 485, 491, 516, 522, 528, 553, 559, 565, 590, 596, 602	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix][Cx] Detection State (Binary)	Binary Value
184, 190, 196, 221, 227, 233, 258, 264, 270, 295,	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix][Cx] Enable Channel	According to parameters

301, 307, 332, 338, 344, 369, 375, 381, 406, 412, 418, 443, 449, 455, 480, 486, 492, 517, 523, 529, 554, 560, 566, 591, 597, 603							
185, 191, 197, 222, 228, 234, 259, 265, 271, 296, 302, 308, 333, 339, 345, 370, 376, 382, 407, 413, 419, 444, 450, 456, 481, 487, 493, 518, 524, 530, 555, 561, 567, 592, 598, 604	1 Bit	I	**C - W - -**	DPT_Switch	0/1	[Ix][Cx] Force State	0 = No Detection; 1 = Detection
186, 192, 198, 223, 229, 235, 260, 266, 272, 297, 303, 309, 334, 340, 346, 371, 377, 383, 408, 414, 420, 445, 451, 457, 482, 488, 494, 519, 525, 531, 556, 562, 568, 593, 599, 605	1 Byte	I	**C - W - -**	DPT_Scaling	0% - 100%	[Ix][Cx] Luminosity Threshold	1 - 100%
606	1 Byte	I	**C - W - -**	DPT_SceneControl	0-63; 128-191	[Thermostat] Scenes	0 – 63 (Execute 1 – 64); 128 – 191 (Save 1 – 64)
607, 658, 709, 760, 811, 862	2 Bytes	I	**C - W T U**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 1	External Sensor Temperature
608, 659, 710, 761, 812, 863	2 Bytes	I	**C - W T U**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 2	External Sensor Temperature
609, 660, 711, 762, 813, 864	2 Bytes	O	**C R - T -**	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Effective Temperature	Effective Control Temperature
610, 661, 712, 763, 814, 865	1 Byte	I	**C - W - -**	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode	1-Byte HVAC Mode
611, 662, 713, 764, 815, 866	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
612, 663, 714, 765, 816, 867	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
613, 664, 715, 766, 817, 868	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
614, 665, 716, 767, 818, 869	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
615, 666, 717, 768, 819, 870	1 Bit	I	**C - W - -**	DPT_Trigger	0/1	[Tx] Comfort Prolongation	0 = Nothing; 1 = Timed Comfort
616, 667, 718, 769, 820,	1 Byte	O	**C R - T -**	DPT_HVACMode	1=Comfort	[Tx] Special Mode Status	1-Byte HVAC Mode

871					2=Standby 3=Economy 4=Building Protection		
617, 668, 719, 770, 821, 872	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 1 (Input)	0 = Closed; 1 = Open
618, 669, 720, 771, 822, 873	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 2 (Input)	0 = Closed; 1 = Open
619, 670, 721, 772, 823, 874	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 3 (Input)	0 = Closed; 1 = Open
620, 671, 722, 773, 824, 875	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 4 (Input)	0 = Closed; 1 = Open
621, 672, 723, 774, 825, 876	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint	Thermostat Setpoint Input
	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint	Reference Setpoint
622, 673, 724, 775, 826, 877	1 Bit	I	C - W - -	DPT_Step	0/1	[Tx] Setpoint Step	0 = Decrease Setpoint; 1 = Increase Setpoint
623, 674, 725, 776, 827, 878	2 Bytes	I	C - W - -	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Setpoint Shift Offset	Float Shift Offset Value
624, 675, 726, 777, 828, 879	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint Status	Current Setpoint
625, 676, 727, 778, 829, 880	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint Status	Current Basic Setpoint
626, 677, 728, 779, 830, 881	2 Bytes	O	C R - T -	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Setpoint Shift Offset Status	Current Setpoint Shift Offset
627, 678, 729, 780, 831, 882	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] Shift Offset Reset	Reset Shift Offset
628, 679, 730, 781, 832, 883	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Comfort Setpoint (Cooling)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Comfort Shift Offset (Cooling)	[-10°C, 10°C]
629, 680, 731, 782, 833, 884	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Standby Setpoint (Cooling)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Standby Shift Offset (Cooling)	[-10°C, 10°C]
630, 681, 732, 783, 834, 885	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Economy Setpoint (Cooling)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Economy Shift Offset (Cooling)	[-10°C, 10°C]
631, 682, 733, 784, 835, 886	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Comfort Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Comfort Shift Offset (Heating)	[-10°C, 10°C]
632, 683, 734, 785, 836, 887	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Standby Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Standby Shift Offset (Heating)	[-10°C, 10°C]
633, 684, 735, 786, 837, 888	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Economy Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Economy Shift Offset (Heating)	[-10°C, 10°C]
634, 685, 736, 787, 838, 889	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Lower Dead Band (Only for Comfort Mode)	Automatic H/C Mode Changeover Band [0°C, 10°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Lower Dead Band	Automatic H/C Mode Changeover Band [0°C, 10°C]
635, 686, 737, 788, 839, 890	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Upper Dead Band (Only for Comfort Mode)	Automatic H/C Mode Changeover Band [0°C, 10°C]

	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Upper Dead Band	Automatic H/C Mode Changeover Band [0°C, 10°C]
636, 687, 738, 789, 840, 891	1 Bit	I	C - W - -	DPT_Heat_Cool	0/1	[Tx] Simplified Mode	0 = Cool; 1 = Heat
637, 688, 739, 790, 841, 892	1 Bit	O	C R - T -	DPT_Heat_Cool	0/1	[Tx] Simplified Mode Status	0 = Cool; 1 = Heat
638, 689, 740, 791, 842, 893	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] On/Off	0 = Off; 1 = On
639, 690, 741, 792, 843, 894	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] On/Off Status	0 = Off; 1 = On
640, 691, 742, 793, 844, 895	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Force Secondary System (Cool)	0 = Off; 1 = On
641, 692, 743, 794, 845, 896	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Force Secondary System (Heat)	0 = Off; 1 = On
642, 693, 744, 795, 846, 897	1 Byte	I	C - W - -	DPT_ChangeoverMode		[Tx] Mode	0 = Auto; 1 = Cool; 2 = Heat
643, 694, 745, 796, 847, 898	1 Byte	O	C R - T -	DPT_ChangeoverMode		[Tx] Mode Status	0 = Auto; 1 = Cool; 2 = Heat
644, 695, 746, 797, 848, 899	1 Byte	I/O	C R W T U	DPT_System_Selector	0 - 3	[Tx] System Selector (Cool)	0 = S1 (Main) / S2 (Additional); 1 = Only S1; 2 = Only S2; 3 = S2 (Main) / S1 (Additional)
	1 Byte	I/O	C R W T U	DPT_System_Selector	0 - 3	[Tx] System Selector (Cool)	0 = S2 (Main) / S1 (Additional); 1 = Only S1; 2 = Only S2; 3 = S1 (Main) / S2 (Additional)
645, 696, 747, 798, 849, 900	1 Byte	I/O	C R W T U	DPT_System_Selector	0 - 3	[Tx] System Selector (Heat)	0 = S1 (Main) / S2 (Additional); 1 = Only S1; 2 = Only S2; 3 = S2 (Main) / S1 (Additional)
	1 Byte	I/O	C R W T U	DPT_System_Selector	0 - 3	[Tx] System Selector (Heat)	0 = S2 (Main) / S1 (Additional); 1 = Only S1; 2 = Only S2; 3 = S1 (Main) / S2 (Additional)
646, 652, 697, 703, 748, 754, 799, 805, 850, 856, 901, 907	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Cool)	PI Control (Continuous)
647, 653, 698, 704, 749, 755, 800, 806, 851, 857, 902, 908	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Heat)	PI Control (Continuous)
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable	PI Control (Continuous)
648, 654, 699, 705, 750, 756, 801, 807, 852, 858, 903, 909	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	PI Control (PWM)
649, 655, 700, 706, 751, 757, 802, 808, 853, 859, 904, 910	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	PI Control (PWM)
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	PI Control (PWM)
650, 656, 701, 707, 752, 758, 803, 809, 854, 860, 905, 911	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Cool)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%

651, 657, 702, 708, 753, 759, 804, 810, 855, 861, 906, 912	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Heat)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944	1 Bit	I	C - W - -	DPT_Bool	0/1	[LF] (1-Bit) Data Entry x	Binary Data Entry (0/1)
945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960	1 Byte	I	C - W - -	DPT_Value_1_Ucount	0 - 255	[LF] (1-Byte) Data Entry x	1-Byte Data Entry (0-255)
961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976	2 Bytes	I	C - W - -	DPT_Value_2_Ucount	0 - 65535	[LF] (2-Byte) Data Entry x	2-Byte Data Entry
	2 Bytes	I	C - W - -	DPT_Value_2_Count	-32768 - 32767	[LF] (2-Byte) Data Entry x	2-Byte Data Entry
	2 Bytes	I	C - W - -	9.xxx	-671088.64 - 670433.28	[LF] (2-Byte) Data Entry x	2-Byte Data Entry
977, 978, 979, 980, 981, 982, 983, 984	4 Bytes	I	C - W - -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] (4-Byte) Data Entry x	4-Byte Data Entry
985, 986, 987, 988, 989, 990, 991, 992, 993, 994	1 Bit	O	C R - T -	DPT_Bool	0/1	[LF] Function x - Result	(1-Bit) Boolean
	1 Byte	O	C R - T -	DPT_Value_1_Ucount	0 - 255	[LF] Function x - Result	(1-Byte) Unsigned
	2 Bytes	O	C R - T -	DPT_Value_2_Ucount	0 - 65535	[LF] Function x - Result	(2-Byte) Unsigned
	4 Bytes	O	C R - T -	DPT_Value_4_Count	-2147483648 - 2147483647	[LF] Function x - Result	(4-Byte) Signed
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[LF] Function x - Result	(1-Byte) Percentage
	2 Bytes	O	C R - T -	DPT_Value_2_Count	-32768 - 32767	[LF] Function x - Result	(2-Byte) Signed
	2 Bytes	O	C R - T -	9.xxx	-671088.64 - 670433.28	[LF] Function x - Result	(2-Byte) Float

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