

# ekinex

CONTROL YOUR LIVING SPACE



**Application manual**  
**EK-TH2-TP**  
**Transponder holder**  
**Access Control System**

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1.1.0	update	21/01/2020
1.0.1	Product image update	23/10/2019
1.0.0	Draft, first emission	03/06/2019

## 1 Document purpose

This manual describes the application details for version A1.0 of the ekinex® transponder holder EK-TH2-TP. The document is aimed at the system configurator as a description and reference guide for device functionalities and application programming. For mechanical and electrical details of the devices, please refer to the technical data sheet of the device.

This application manual and application programs for the ETS development environment are available for download at [www.ekinex.com](http://www.ekinex.com).

Document	File name (## = version)	Version	Device review	Last update
Product datasheet	STEKTRTPH2TP##_IT.pdf		A1.0	01/2020
Application manual	MAEKTH2TP##_IT.pdf		A1.0	01/2020
ETS Test Project	APEKTRTPH2TP##_ knxproj	EK-TH2-TP EK-TR2-TP EK-TP2-TP	A1.0	01/2020

You can access the most up-to-date version of the full documentation for the device using following QR codes:

EK-TH2-TP



## 2 Description

The EK-TH2-TP pocket, together with the EK-TR2-TP reader and the EK-TP2-TP programmer, constitute a series of KNX devices for detecting presence and for controlled access to the rooms via smart-cards. Ideal for creating KNX standard automation functions in hospitality and hospitality structures (hotels, residences, guesthouses or bed & breakfasts) with the aesthetic uniformity of ekinex® wall products (push-button controls and room thermostats), in combination with products from switchboard (EK-HO1-TP and EK-HU1-TP controllers) and with the ekinex® accédo management and supervision software.

The products are equipped with an RFID-type front antenna capable of feeding the smart-card card that is approached and reading the programmed information. The EK-TR2-TP wall reader enables access following validation of the card based on the configured authorizations. The EK-TH2-TP wall pocket activates presence following the insertion of the card in the appropriate front pocket. Both products can manage guest cards of the accommodation facility, based on the system codes, the reservation and the check-in / check-out period, service cards based on time slots and pass-dates. To program cards, use the product EK-TP2-TP, which is very similar to the reader with the possibility of activating the front antenna also for writing operations. The programming of the cards in the reception area as well as the activation of a reader outside the room and an inside pocket takes place on the KNX network infrastructure. In addition to the power supplied by the KNX bus, an external auxiliary power supply is required for the RFID antenna at 12/24 Vac / dc. The basic programming of the devices as well as the configuration of the automation functions is carried out through the ETS application program; card programming and enabling room and controlled access devices in common areas requires the use of ekinex® accédo management and supervision software. Both devices can notify the passage and validation events of each type of card via the KNX bus with an internal buffer to cope with the unavailability of the communication bus due to excessive data traffic.

The EK-TH2-TP card pocket has an output that can be activated based on the validation of the inserted card or activated by KNX telegrams. It is possible to insert a delay in removing the card for courtesy lights management. The binary input is available for connecting a traditional button (with switching, dimming or roller shutter / curtain function) or a signaling contact (e.g. opening the window). The white Led on the front of the device is flashing (night signaling) when the card is not inserted in the pocket, off when the card is inserted; the command can also take place via KNX bus telegrams.

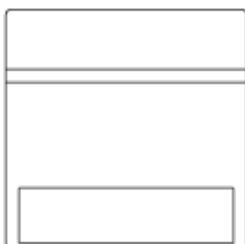


The appliances can be completed with a 45 x 45 mm window plate (in plastic, aluminum or fenix NTM®) and with an optional frame from the form, flank or NF 'series (in plastic or aluminum). Plate and frame must be ordered separately. For more information, consult the ekinex® product catalog or go to [www.ekinex.com](http://www.ekinex.com).

## 3 Technical features

### 3.1 Transponder holder

The “transponder holder” is a flush-mounting device for wall boxes, designed to realize access control systems with a communication support based on KNX bus.



It is equipped with:

- one relay (4A @24 Vac/dc)
- one input to be used for connecting external conventional devices (such as push-button, door/window contact, ...)

The output can be programmed in two different ways:

- “Linked to access control cards”, receiving in this case switching commands from the device itself (according to valid transponder card inserted/removed into/from the

card holder)

- “Being a standard KNX Switch actuator output”, able to be controlled by every KNX-standard devices

The white LED on the front is blinking when the card is not inserted, while is OFF when the card is inserted. In the ETS file is available a communication objects for switching controlling LED behaviour (blinking, fixed ON).

The transponder holder requires an external power supply enabling its operation even without bus.

The available input can be used to connect conventional push-button or for example door/window contact. The input can be configured as switch sensor, dimmer sensor, shutter sensor.

#### 3.1.1 Technical data

Product code	EK-TH2-TP
Power supply	via bus KNX (30 Vdc)
External supply	12-24 Vac/dc
Bus cable	KNX standard
Absorption	max 10 mA from bus. External supply to be sized for 1 W peak
Number of outputs	1 bistable relay 4A @24 Vac/dc
Number of inputs	1 on the rear side, NO, max connection length 10 m
Use environment	class 3k5 (inside, dry)
Operating temperature	-5 °C ... +50 °C
Relative humidity	max 90% (non condensating)
Connection to bus	standard bus connector
Electric connections	screw terminal 0.5 Nm
Protection degree	IP20
Dimensions	44 x 44 x 43 mm (L x H x P)
Weight	approx.50 g

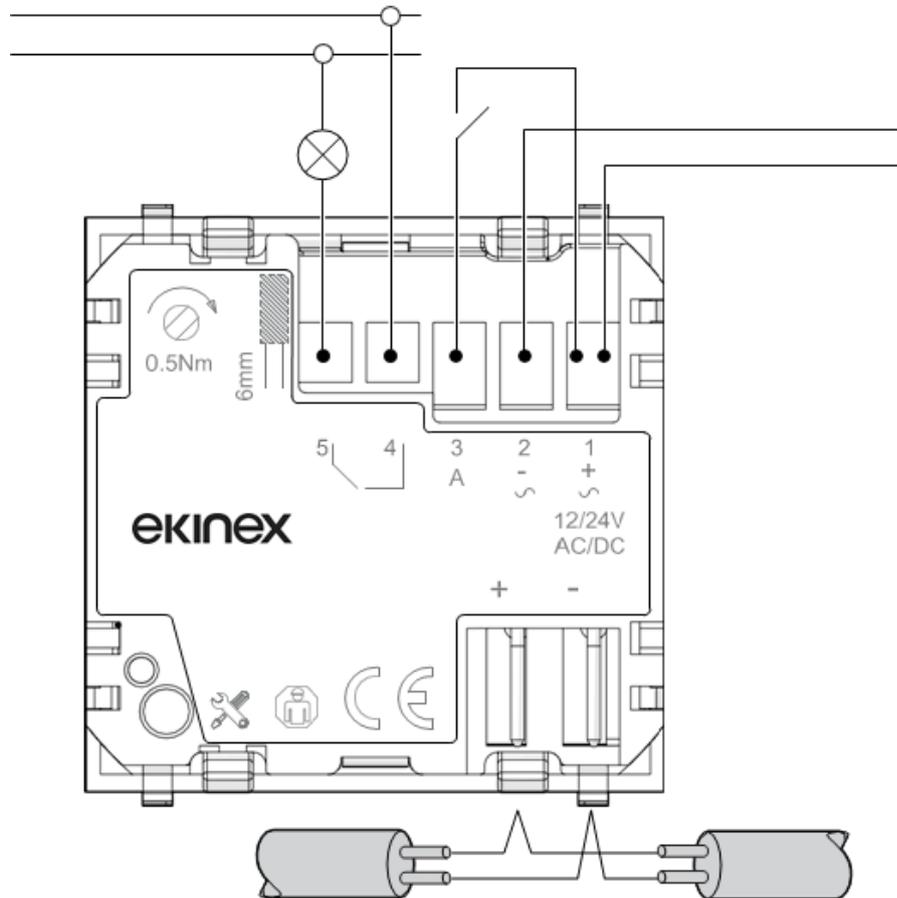
Reference standards	EN50090-2-2, EN 50491, EN 50364, ETSI EN 300 330-2
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Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
EK-TH2-TP	Access control transponder holder	22	255	255

### 3.1.2 Access control function

TAG validation scheme	Black list and “No TAG”– Local scheme (communication bus not required)
Event notification upon system supervision	Only possible if the communication bus is available. Available modes: <ul style="list-style-type: none"> <li>▪ Spontaneous emission</li> </ul>
Notification characteristics Insertion/removal events	Information about: Event time stamp (HH,MM,SS), TAG ID, event outcome (insertion/removal), room status (Mini-bar, maintenance request, room accessibility, room clean/dirty)
Buffer memory for events	The device can store up to 64 events to deal with the communication bus unavailability due to heavy traffic.
Maximum number of TAGs in memory	128
Maximum number plant codes in memory	128

### 3.1.3 Connection diagram



#### Assignment of the physical address

The assignment and programming of the physical address is carried out in the ETS. The device features a Programming button to assign the physical device address.

The red Programming LED lights up, after the button has been pushed. It switches off, as soon as the ETS has assigned the physical address or the Programming button is pressed again.

#### Cleaning

If devices become dirty, they can be cleaned using a dry cloth or a cloth dampened with a soapy solution. Corrosive agents or solutions should never be used.

#### Download behaviour

Depending on the PC, which is used, the progress bar for the download may take up to one and a half minutes, before it appears, due to the complexity of the device.

#### Maintenance

The device is maintenance-free. No repairs should be carried out by unauthorised personnel if damage occurs, e.g. during transport and/or storage.

### 3.2 Power supply

All devices in the range require an external 12-24 Vac/dc power supply, allowing them to operate (e.g. opening of electric lock) even in the event of a lack of bus voltage.

For system sizing (number and type of power supplies to use), bear in mind that each access control device draws a peak power of 1W.

We recommends using a dedicated power supply/transformer to power the electric lock (not the same one used for the access control devices range), as the power draw of the electric lock is not usually known beforehand and can invalidate the correct sizing of the power supply for the access control devices, causing outages and malfunctions. Where installation requirements should necessitate the use of a common power supply/transformer (for example one in each room for applications such as hotels), it is essential to consider the maximum possible power draw of the electric lock and subtract this from the available power provided by the power supply/transformer: the residual power must be sufficient to power all access control devices running on that power supply/transformer.

For powering the access control devices, we recommends the use of stabilised power supplies as opposed to transformers. When powering access control devices with alternating current, it is important to remember that transformers for discontinuous loads can not be used to power the access control devices.

An example of an ideal configuration for the sizing of the access control devices' power supply is given below:

- Dedicated power supply/transformer for electric lock
- DC power supply for the access control devices with dedicated stabilised transformer, chosen on the basis of the number of devices to control.

### 3.3 Connection and wiring

For the supplementary power supply of the devices (12-24 Vac/dc), a standard cable can be used; the sizing of this must be based on the total length of cable required for the installation. Specifically, we recommends a dedicated insulated cable for the power supply of the access control devices, of cross section 1 mm<sup>2</sup>. It is not possible to use the additional pair of conductors present in a KNX 4-wire cable (white-yellow), unless a power supply which meets SELV specifications can be guaranteed on this pair (in particular the presence of a power supply unit with isolation transformer). In general, seeing as it is not always possible to guarantee a SELV power supply beforehand or to know whether a power supply which meets SELV specifications has been supplied, it is in any case recommended to use a dedicated cable to power the access control devices, as indicated above. For connecting the input it's suggested to use a dedicated 2 x 0,50 mm shielded cable. Maximum distance covered is 10 meters.

### 3.4 Outdoor installation

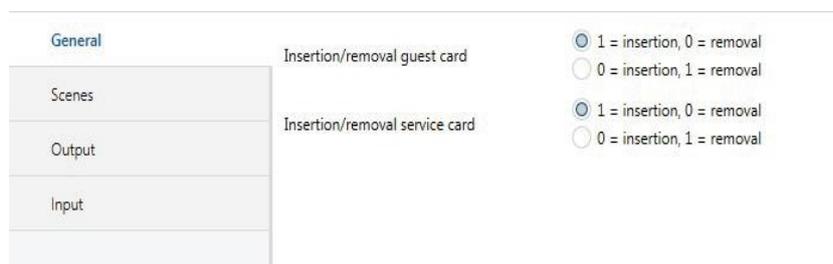
The access control devices are rated IP20 and therefore cannot be installed outdoors.

## 4 Commissioning

The main functions of the access control devices are described in this section. Parametrisation is performed via the Engineering Tool ETS Software application program. For the parametrisation you need a pc desktop or a laptop with ETS and connection to the KNX system (obtainable for example by means of RS232, USB or IP Interface).

### 4.1 General

In this menu is possible to choose the value of the 1bit object sent on the KNX bus on card insertion/removal event.



#### Insertion/removal guest card

With this parameter you can choose to send one KNX telegram with 1bit for guest card insertion and removal  
 Options:

- 1 = insertion, 0 = removal
- 0 = insertion, 1 = removal

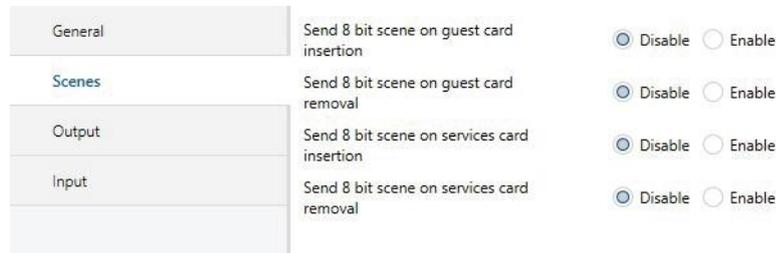
#### Insertion/removal service card

With this parameter you can choose to send one KNX telegram with 1bit for service card insertion and removal  
 Options:

- 1 = insertion, 0 = removal
- 0 = insertion, 1 = removal

## 4.2 Scenes

In this menu it's possible to enable/disable sending of 8 bit scenario KNX telegram on specific events (guest/service card insertion/removal in/from the card holder).



### Send 8 bit scene on guest card insertion

With this parameter you can choose to send one KNX telegram with 8 bit scene on guest card insertion into the transponder holder.

Options:

- **Disabled**
- Enabled

When “Enabled” is selected, with the “Scene” parameter is possible to select the Scene number to send on guest card insertion.

### Send 8 bit scene on guest card removal

With this parameter you can choose to send one KNX telegram with 8 bit scene when a guest card is removed from the transponder-holder.

Options:

- **Disabled**
- Enabled

When “Enabled” is selected, with the “Scene” parameter is possible to select the Scene number to send on guest card.

### Send 8 bit scene on service card insertion

With this parameter you can choose to send one KNX telegram with 8 bit scene on service card insertion into the transponder holder.

Options:

- **Disabled**
- Enabled

When “Enabled” is selected, with the “Scene” parameter is possible to select the Scene number to send on service card insertion.

### Send 8 bit scene on service card removal

With this parameter you can choose to send one KNX telegram with 8 bit scene when a service card is removed from the transponder holder.

Options:

- **Disabled**
- Enabled

When “Enabled” is selected, with the “Scene” parameter is possible to select the Scene number to send on service card removal.

### 4.3 Output

In this menu it’s possible to configure the functionalities of transponder holder output relay.

General	Linked to acces control cards	<input checked="" type="radio"/> No <input type="radio"/> Yes
Scenes	Enable time function: delay staircase lighting	<input checked="" type="radio"/> No <input type="radio"/> Yes
Output	Output contact reaction	<input checked="" type="radio"/> Normally open <input type="radio"/> Normally closed
Input	Enable function "scene (8bit)"	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Reaction to the bus voltage drop	Unchanged contact
	Communication object value at bus voltage recovery	No value

#### Linked to access control cards

With this parameter, you can choose the behavior of output relay Options:

- No
- Yes

#### 4.3.1 Not linked to access control cards

With this configuration the transponder holder relay acts as a standard KNX output channel, being able to be controlled through standard KNX telegram sent by standard KNX devices. Once the output has been configured in this modality, it is possible to additional parametrize it with the two following parameter:

General	Linked to acces control cards	<input type="radio"/> No <input checked="" type="radio"/> Yes
Scenes	Enable time function: delay staircase lighting	<input type="radio"/> No <input checked="" type="radio"/> Yes
Output	Delay in s	5
Input	Output contact reaction	<input checked="" type="radio"/> Normally open <input type="radio"/> Normally closed
	Enable function "scene (8bit)"	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Reaction to the bus voltage drop	Unchanged contact
	Communication object value at bus voltage recovery	No value

#### Enable time function: delay staircase lighting

It’s possible to choose staircase lighting function, if needed Options:

- No
- Yes

### Delay in s

If enabled “delay staircase lighting” option with the parameter above, you can configure the value of the delay in seconds.

Options:

[0 ... **5** ... 65.535]

### Enable functions scene (8 bit)

It’s possible to add the 8 bit scene functionality to transponder holder relay. In this case the output reacts to standard KNX 8 bit telegram sent by standard KNX devices.

Options:

- **No**
- Yes

### 4.3.2 Linked to access control cards

With this configuration, the transponder holder relay is switched if it recognizes a valid card. Once the output has been configured in this modality, it is possible to additional parametrize it with the two following parameter:

General	Linked to acces control cards	<input type="radio"/> No <input checked="" type="radio"/> Yes
Scenes	Enable time function: card removal delay	<input type="radio"/> No <input checked="" type="radio"/> Yes
Output	Delay in s	60
Input	Output contact reaction	<input checked="" type="radio"/> Normally open <input type="radio"/> Normally closed
	Reaction to the bus voltage drop	Unchanged contact
	Communication object value at bus voltage recovery	No value

### Enable time function: delay after card removal

It’s possible to choose delay after card removal, if needed Options:

- **No**
- Yes

### Delay in s

If enabled “delay after card removal” option with the parameter above, you can configure the value of the delay in seconds.

Options: [0 ... **60** ... 65.535]

### 4.3.3 Common parameters

Output contact reaction	Normally open
Reaction to the bus voltage drop	Unchanged contact
Communication object value at bus voltage recovery	No value

The following parameters are related to every kind of configuration of transponder holder and are related to configuration of main functionalities of device.

#### Output contact reaction

With this parameter you can determine whether the output works as a “Normally closed contact” or as a “Normally open contact”

Options:

- **Normally open**
- Normally closed

#### Reaction to the bus voltage drop

With this parameter you can define the output status upon device switch off, on bus voltage drop.

Options:

- **Unchanged contact**
- Open contact
- Closed contact

#### Communication object value at bus voltage recovery

With this parameter you can define the output status upon device switch on (communication object value), on bus voltage recovery

Options:

- **No value**
- Write 0
- Write 1



The above parameters related to behavior of output on bus voltage drop and bus voltage recovery do not apply to “Linked to access control cards” configuration, since in this case “Switch” communication object is not present and status of the relay is defined by a “physical” condition, hence insertion/removal of valid card into card-holder.



Please notice that “Reaction to the bus voltage drop” parameter refer to behavior of output on KNX bus voltage failure. On power supply failure (12-24 Vac/dc), the device stops working and is not able to fix the relay in the position defined with this parameter.

## 4.4 Input

In this menu it's possible to configure the behavior of transponder holder input.

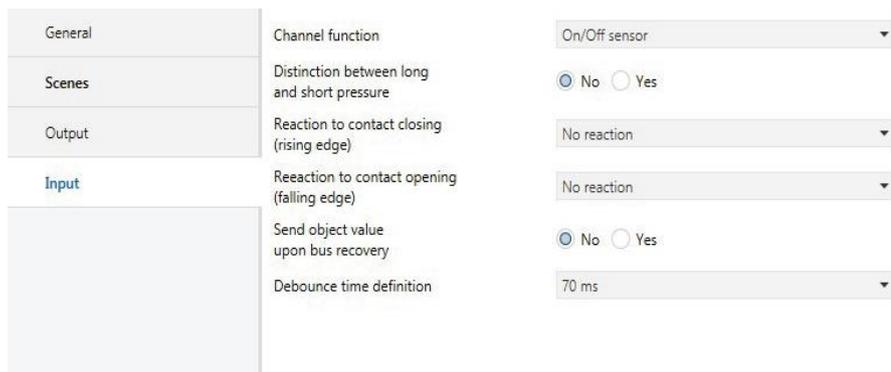
### Channel function

With this parameter, you can choose the behavior of input Options:

- **No function**
- ON/OFF sensor
- ON/OFF sensor – dimmer
- Shutter sensor

#### 4.4.1 ON-OFF sensor

With this configuration the input of the transponder holder can be configured in order to connect external push-button or rocker.



#### Distinction between long and short pressure

It's possible to differentiate behavior between short and long pressure Options:

- **No**
- Yes

#### Reaction to contact closing (rising edge)

It determines the device reaction to input contact closing Options:

- **No reaction**
- ON
- OFF
- Switching

#### Reaction to contact opening (falling edge)

It determines the device reaction to input contact opening Options:

- **No reaction**
- ON
- OFF
- Switching

**Send object value upon bus recovery**

It defines if the device should send (yes) or not send (no) its status upon bus restoration.

Options:

- **No**
- Yes

**Debounce time definition**

This parameter allows you to prevent undesired multiple operation of the input e.g. by bouncing of the contact. The default value (70 ms) is generally sufficient to prevent this undesired effect.

Options:

- **70 ms**
- 30 ms
- 50 ms
- 100 ms
- 150 ms

**Type of contact**

It's possible to define type of contact connected. Options:

- **Normally open**
- Normally closed

In case distinction between long and short pressure is parametrized as Yes, it is possible to configure how long pressure is enabled, and the behavior with short and long pressure.

The following two parameters allow you to determine the time period calculation for long pressure. Time interval is calculated as follows: Period for message repetition = Base \* Multiplier.

**Long pressure: Base**

Options:

- **1 s**
- 100 ms
- 10 s
- 1 min

**Long pressure: Multiplier**

Options:

- [0...255]

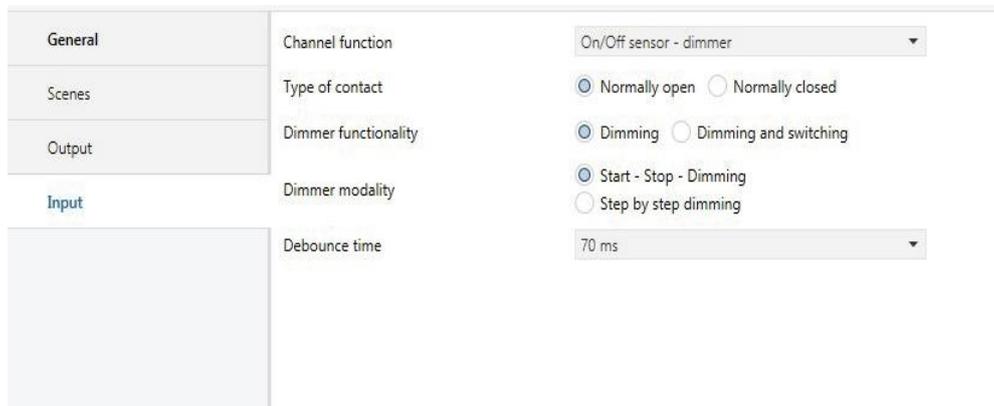
**Reaction to short pressure or Reaction to long pressure**

These parameters are visible if there is a distinction between short and long operation. It can be set for every operation (short or long) on the input, how the object value can be changed. The object value is updated as soon as it has been determined if a short or long operation has occurred. Options:

- **No reaction**
- ON
- OFF
- Switching

#### 4.4.2 ON-OFF sensor - dimmer

With this configuration the input of the transponder holder can be configured in order to connect external push-button or rocker for dimming functionalities.



General	Channel function	On/Off sensor - dimmer
Scenes	Type of contact	<input checked="" type="radio"/> Normally open <input type="radio"/> Normally closed
Output	Dimmer functionality	<input checked="" type="radio"/> Dimming <input type="radio"/> Dimming and switching
Input	Dimmer modality	<input checked="" type="radio"/> Start - Stop - Dimming <input type="radio"/> Step by step dimming
	Debounce time	70 ms

##### Type of contact

With this parameter you can determine whether the input works as a “Normally open contact” or as a “Normally closed contact”.

Options:

- **Normally open**
- Normally closed

##### Dimmer functionality

This parameter allows you to define if lighting can be dimmed (Dimming only) or if a switching is also allowed (Dimming and switching).

Options:

- **Dimming**
- Dimming and switching

##### Dimmer modality

With “Start-Stop-dimming” the command is send via the 4 bit object, when the push-button is released and the device sends a STOP telegram. With “Step-by-step adjustment” the dimming telegram is sent cyclically during long operation. The stop telegram ends the adjustment process at the end of the command.

Options:

- **Start-stop diming**
- Step by step dimming

##### Debounce time

This parameter allows you to prevent undesired multiple operation of the input e.g. by bouncing of the contact. The default value (70 ms) is generally sufficient to prevent this undesired effect. Options:

- **70 ms**
- 30 ms
- 50 ms
- 100 ms
- 150 ms

### 3.4.2.1 Dimming and switching

Reaction to short pressure	No reaction
Long pressure: base	1 s
Long pressure: multiplier [0...255]	1
Dimmer modality	<input checked="" type="radio"/> Start - Stop - Dimming <input type="radio"/> Step by step dimming
Debounce time	70 ms

Once you select “Dimming and switching” in the “dimmer functionality” parameter (see above), it is possible to configure some additional parameters.

#### Reaction to short pressure

The object value is updated as soon as it has been determined if a short operation has occurred. Options:

- **No reaction**
- ON
- OFF
- Switching

The following two parameters allow you to determine the time period calculation for long pressure (dimming). Time interval is calculated as follows: Period for message repetition = Base \* Multiplier.

#### Long pressure: Base

Options:

- **1 s**
- 100 ms
- 10 s
- 1 min

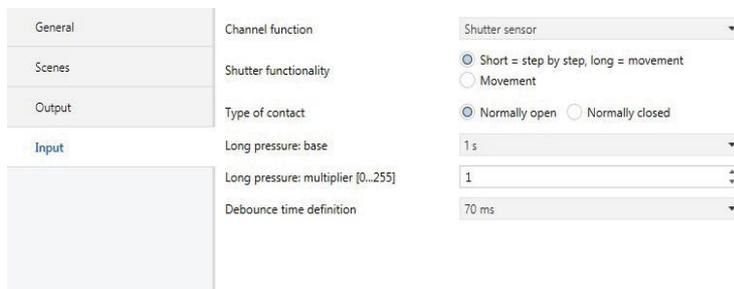
#### Long pressure: Multiplier

Options:

- [0...255]

### 4.4.3 Shutter sensor

With this configuration the input of the transponder holder can be configured in order to connect external push-button or rocker for shutter functionalities.



#### Shutter functionality

This parameter allows you to define the type of shutter control available with the push-button/rocker connected: both shutter movement and lamella adjustment, or only movement.

Options:

- **Short = step by step, long = movement**
- Movement

#### Type of contact

With this parameter you can determine whether the input works as a “Normally open contact” or as a “Normally closed contact”.

Options:

- **Normally open**
- Normally closed

#### Debounce time

This parameter allows you to prevent undesired multiple operation of the input e.g. by bouncing of the contact. The default value (70 ms) is generally sufficient to prevent this undesired effect.

Options:

- **70 ms**
- 30 ms
- 50 ms
- 100 ms
- 150 ms

### 3.4.3.1 Short= step by step, long= movement

Once you select “Short = step by step, long = movement” in the “shutter functionality” parameter (see above), it is possible to configure some additional parameters. In particular the following two parameters allow you to determine the time period calculation for long pressure (movement). Time interval is calculated as follows:  
Period for message repetition = Base \* Multiplier.

#### **Long pressure: Base**

Options:

- 1 s
- 100 ms
- 10 s
- 1 min

#### **Long pressure: Multiplier**

Options:

- [0...255]

## 5 Operation of communication objects

Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
0	Output	Switch			1 bit	C	-	W	-	-		Low
1	Output	Scene			1 byte	C	-	W	-	-		Low
2	Output	Status Switch			1 bit	C	R	-	T	-		Low
3	Guest in the room	Guest in the room			1 bit	C	-	-	T	-		Low
4	Acc1 Command	Acc1 Command			1 byte	C	R	W	T	U		Low
5	Acc14 Command	Acc14 Command			14 bytes	C	R	W	T	U		Low
6	Date	Date			3 bytes	C	-	W	-	-		Low
7	Time	Time			3 bytes	C	-	W	-	-		Low
9	Guest card insertion scene	Guest card insertion scene			1 byte	C	-	-	T	-		Low
10	Guest card removal scene	Guest card removal scene			1 byte	C	-	-	T	-		Low
11	Insertion/removal guest card	Insertion/removal guest card			1 bit	C	-	-	T	-		Low
12	Insertion/removal service card	Insertion/removal service card			1 bit	C	-	-	T	-		Low
13	Services card insertion scene	Services card insertion scene			1 byte	C	-	-	T	-		Low
14	Services card removal scene	Services card removal scene			1 byte	C	-	-	T	-		Low
15	Led	Led			1 bit	C	-	W	-	-		Low
18	Shutter UP/DOWN	Shutter UP/DOWN			1 bit	C	-	-	T	-		Low
19	Stop UP-DOWN/Slat adjust.	Stop UP-DOWN/Slat adjust.			1 bit	C	-	-	T	-		Low
22	Disabling input	Disabling input			1 bit	C	-	W	-	-		Low

N°	Function	Object name	Data type	Flag
<b>0</b>	<b>Switch</b>	<b>Switch</b>	<b>1 bit</b>	<b>C, W</b>
<p>This object is used to switch the output ON/OFF. The device receives a switching command via the communication object. If the output is programmed as “normally open” contact, the relay is closed with a “1” telegram value and opened with a “0” telegram value (and the opposite is true when it is programmed as “normally open” contact). Choosing “Linked to access control cards” = Yes, this communication object is not available and the output can be controlled without communication object, associating it with the transponder TAGs validation events</p>				
<b>2</b>	<b>Status switch</b>	<b>Status switch</b>	<b>1 bit</b>	<b>C, R, T</b>
<p>This object is always visible. The object value indicates the relay contact position (open or closed).</p>				
<b>1</b>	<b>Scene</b>	<b>Scene</b>	<b>1 byte</b>	<b>C, W</b>
<p>This communication object is available only when the output functionality is configured as “Linked to access control cards” = No. Using this 8 bit communication object, a scene telegram can be sent using a coded telegram. The telegram contains the number of the scene concerned as well as the information on whether the scene is to be recalled or if the current contact position is to be assigned to the scene.</p>				
<b>3</b>	<b>Guest in the room</b>	<b>Guest in the room</b>	<b>1 bit</b>	<b>C, T</b>
<p>This object is used to send a 1 bit telegram with information about presence of guest in the room (1 = guest is in the room, 0 = guest is outside the room). The information is taken from card-holder connected to transponder reader with its input (card insertion/card removal)</p>				
<b>4</b>	<b>ACC1 Command</b>	<b>ACC1 Command</b>	<b>1 byte</b>	<b>C, R, W, T, U</b>
<b>5</b>	<b>ACC14 Command</b>	<b>ACC14 Command</b>	<b>14 byte</b>	<b>C, R, W, T, U</b>
<p>These communication objects are used to interface access control devices (transponder reader and transponder holder) with supervision and control software. Objects have to be associated with group addresses which, in turn, are indicated in the software, in the menu for configuration of the individual devices.</p>				
<b>6</b>	<b>Date</b>	<b>Date</b>	<b>3 byte</b>	<b>C, W</b>
<b>7</b>	<b>Time</b>	<b>Time</b>	<b>3 byte</b>	<b>C, W</b>

<p>These communication objects are used to receive date and time updates from the software (or KNX clock). These objects are linked to the corresponding Date and Time boxes in the “Settings” menu (tab “Timers”) via group addresses.</p>				
9	<b>Guest Card insertion scene</b>	<b>Guest Card insertion scene</b>	1 byte	C, T
10	<b>Guest Card removal scene</b>	<b>Guest card removal scene</b>	1 byte	C, T
<p>These objects are available only if previously enabled in the menu “Scenes”. With these objects is possible to send 1 byte scene telegram on Guest transponder cards events (insertion/removal into/from the transponder holder)</p>				
11	<b>Insertion/removal guest card</b>	<b>Insertion/removal guest card</b>	1 bit	C, T
12	<b>Insertion/removal service card</b>	<b>Insertion/removal service card</b>	1 bit	C, T
<p>With these objects is possible to send 1 bit telegram on transponder cards validation events (Guest Card/Service Card insertion/removal into/from the transponder holder)</p>				
13	<b>Service Card insertion scene</b>	<b>Service Card insertion scene</b>	1 byte	C, T
14	<b>Service Card removal scene</b>	<b>Service card removal scene</b>	1 byte	C, T
<p>These objects are available only if previously enabled in the menu “Scenes”. With these objects is possible to send 1 byte scene telegram on Service transponder cards events (insertion/removal into/from the transponder holder)</p>				
15	<b>Led</b>	<b>Led</b>	1 bit	C, W
<p>Through this communication object you can control the white LED status directly over the bus. To switch the LED ON (fixed), you simply need to send a telegram containing the value 1, when you send a telegram containing the value 0 the LED starts blinking, which is the standard behavior.</p>				
16	<b>Switch – short pressure</b>	<b>Switch – short pressure</b>	1 bit	C, W, T
17	<b>Switch – long pressure</b>	<b>Switch – long pressure</b>	1 bit	C, W, T
<p>These objects are available only if previously enabled in the menu “Input”, configuring “Channel function” as “On/ Off sensor”. With these objects is possible to send 1bit object on short/long pressure from the push-button/rocker switch connected to the input</p>				
20	<b>Switching</b>	<b>Switching</b>	1 bit	C, W, T
21	<b>Relative dimming</b>	<b>Relative dimming</b>	4 bit	C, T
<p>These objects are available only if previously enabled in the menu “Input”, configuring “Channel function” as “On/ Off sensor - dimmer”. With these objects is possible to send 1bit object and 4 bit object for switching and relative dimming on short/long pressure from the push-button/rocker switch connected to the input</p>				
18	<b>Shutter UP/DOWN</b>	<b>Shutter UP/DOWN</b>	1 bit	C, T
19	<b>Stop UP-DOWN/ Slat adjust.</b>	<b>Stop UP-DOWN/ Slat adjust.</b>	1 bit	C, T
<p>These objects are available only if previously enabled in the menu “Input”, configuring “Channel function” as “Shutter sensor”. With these objects is possible to send 1 bit objects for shutter movement and shutter stop/slat adjustment</p>				
22	<b>Disabling</b>	<b>Disabling</b>	1 bit	C, W
<p>This 1bit object allows disabling input available on the transponder holder</p>				

## 6 Warnings

- Installation, electrical connection, configuration and commissioning of the device can only be carried out by qualified personnel in compliance with the applicable technical standards and laws of the respective countries
- Opening the housing of the device causes the immediate end of the warranty period
- In case of tampering, the compliance with the essential requirements of the applicable directives, for which the device has been certified, is no longer guaranteed
- ekinex® KNX defective devices must be returned to the manufacturer at the following address:  
Ekinex S.p.A. Via Novara 37, 28010 Vaprio d'Agogna (NO), Italy

## 7 Other information

- The instruction sheet must be delivered to the end customer with the project documentation
- For further information on the product, please contact the ekinex® technical support at the e-mail address: [support@ekinex.com](mailto:support@ekinex.com) or visit the website [www.ekinex.com](http://www.ekinex.com)
- Each ekinex® device has a unique serial number on the label. The serial number can be used by installers or system integrators for documentation purposes and has to be added in each communication addressed to the Ekinex technical support in case of malfunctioning of the device
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