



Technical Manual

SATION Dimming Actuator 1-fold



SATION-DM0101.0210

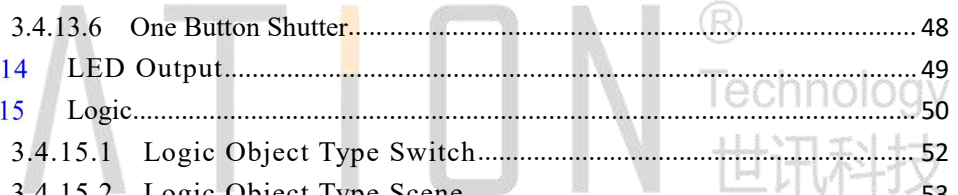




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Version

Version No.	Release Date	Description
V1.0	April 4 th , 2018	1 st Release

Notice

1. Please read this user manual carefully before using the product.
2. This product is used in indoor environment and installed in electrical control box.
3. Please install this product in a dry and ventilated place.
4. Before power on, please confirm the input voltage according to the manual; after power on, please confirm the normal output voltage before connecting to the control bus.
5. Please make sure the secure shell is in good condition, if the shell is damaged, please stop using to avoid accident.
6. This product is NOT a toy, please make sure it is out of children touch.
7. Only be suitable for EIB/KNX system bus.
8. Others:
The below sign indicates this product can't be dealt as ordinary family rubbish, in order to avoid the possible environment and human health harm caused by the electrical waste, this product must follow recovery processing. Please contact the local recycling department after this product is scrapped, to make sure it can go as the right waste processing procedure.



1 Overview

This Use Manual refers to:

- SATION-DM0101.0210, Sation-Concealed 1 fold Dimming Actuator(200W)

1.1 Diagram Drawing

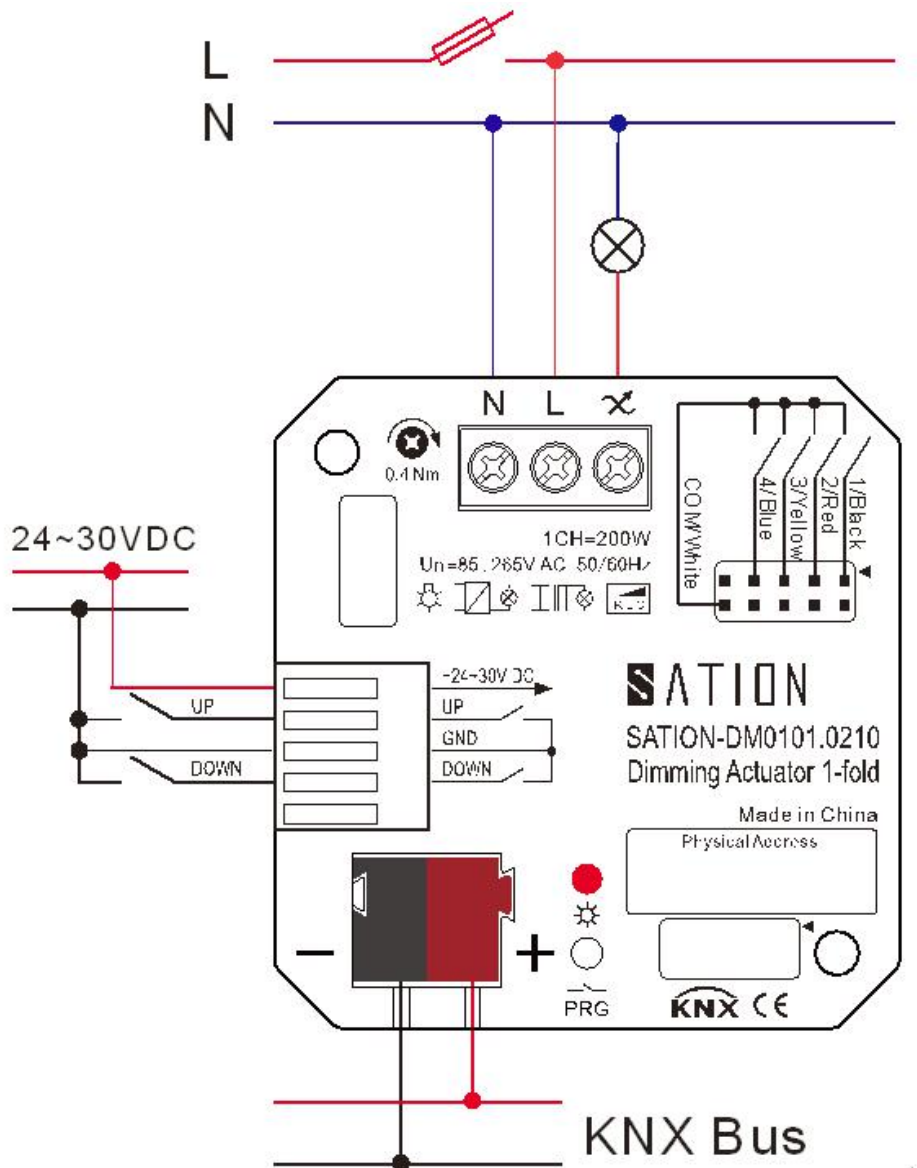




figure1.

1.2 Usage

This device can adjust the brightness of the light, which is suitable for all kinds of communication driven lamps. According to the load type (resistance, sensibility, tolerance), the appropriate driving type is selected.

Switch mode (direct opening/closing), relative dimming mode (based on the current brightness), absolute dimming mode (by percentage).

1.3 Structure Specification

Refer to figure 1. Diagram Drawing, the concealed 1-fold dimmer actuator contains a programming key, a programming indicator light, a KNX bus input, a 5 pin input terminal and a 3 pin output terminal. Five needle inputs contain two auxiliary power supply 24 v ~ 30 VDC input, two key hand input interface (UP and DOWN) and a common ground (GND), 3 needle output terminals contain zero line interface, firewire, and a light output interface.

1.4 Manual operation and protection operation

The single-channel device contains two manual key input, one corresponding to the light and one corresponding to the quenching. After pressing any button, the device enters the manual mode, no longer controlled by external command. After pressing a button more than 2s, the device sends a 100% absolute dimming command, the brightness of the lamp changes, and the time of dimming is also affected.

The time parameter influences, release the button, send a stop command, and the dimming process is stopped. When the system detects that the keyless action exceeds 3s, exit the manual mode, at this point the device can accept external control commands.

The dimming channel has real-time monitoring protection operation. When the channel overpower, or overtemperature, the channel output will be processed immediately:

- (1). Overpower protection, the channel is adjusted to 75% firstly. If the power is still overpower, it will be dimpled to 50%. If the power is still overpower, the channel will be closed until the channel is normal.
- (2). Over temperature protection, the channel is dimmed to 50% firstly. If the temperature is still detected, the channel will be closed until the channel returns to normal.

1.5 Function

The channel has the associated parameter options that can be configured flexibly as needed.

1.5.1 Overview of the dimming channel function

Dimming Function:	Load type	<ul style="list-style-type: none"> ● omic/apacitive load / electronic transf.(trailing edge) ● inductive loads / conventional transf.(leading edge) ● ESL/.LED without transformer(leading edge) ● ESL/LED with electronic transf.(trailing edge) ● ESL without transf.(leading edge)100% start
	Characteristic curve	<ul style="list-style-type: none"> ● Linear(bulb, LED, halogen lamp) ● Quadrate(esl, fluorescent lamp) ● Half logarithmically(optional) ● Logarithmically(optional)
	Time functions	<ul style="list-style-type: none"> ● Staircase lights ● Switch-ono delay ● Switch-off delay
	Turn-on behavior	<ul style="list-style-type: none"> ● Absolute brightness level ● Last value(memory-function)
	Absolute values	<ul style="list-style-type: none"> ● Minimum value ● Maximum value
	Dimming behavior	<ul style="list-style-type: none"> ● Dimming speed
	Alarm functions	<ul style="list-style-type: none"> ● Temperature ● Electric load alarm
	Central functions	<ul style="list-style-type: none"> ● Central switching ● Central dimming
	Scene functions	For every channel activatable/de activatable
	Automatic functions	For every channel activatable/de activatable
Additional Functions:	Blocking objects	<ul style="list-style-type: none"> ● 2 blocking objects available ● Behavior for blocking and unblocking independent parameterizable
	Behavior after power off/after reset	<ul style="list-style-type: none"> ● No reaction ● Off/on ● Absolute value ● Last value



1.5.2 Universal Interface Channel Function Overview

Eliminate the jitter time	10-120ms, optional
Long press the button	0.1-30s, optional
Enter internal pull	enable/disable
Double key dimming function	Dimming
Double key curtain function	On/Off
Double key switch function	On/Off
Single key switch function	Switch function
	Toggle function
	State function
	Delay function
	Edge sending function
	Mandatory function
	Sending value function
Scene function	Save function
	Scene selection
Counter function	Edge checking
	Step threshold setting
Switch short/long press function	Open/close/toggle
	Short press/long press independent configuration
Single key dimming function	Single key dimming
Single key shutter function	Single key shutter control
Logic function: and	Switch function
	Scene function
	The reverse function
Logic function: or	Switch function
	Scene function
	The reverse function

2 Communication Object

2.1 Object Corresponding Channel

The communication which is between the devices depends on the group object. Each group is associated with the group address.



A dimmer actuator contains three global objects and objects corresponding to each channel. When a channel is activated, parameter configuration can be performed, and some objects are based on parameters.

The configuration is shown in the object window. Each channel occupies 15 object positions.

Therefore, the code range of channel A is 0-14.

The three global object codes are fixed at 60,61,62.

The following figure is channel A object graph:

Number	Name	Object Function	Description	Group...	Length	C	R	W	T	U	Data Type	Priority
0	Channel A	Switch			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low
2	Channel A	Dim relatively			4 bit	C	-	W	-	-	3 bit controlled DPT_Control...	Low
3	Channel A	Dim absolutely			1 Byte	C	-	W	-	-	8 bit unsigned value DPT_Scali...	Low
4	Channel A	State On/Off			1 bit	C	R	-	T	-		Low
5	Channel A	State dim value			1 Byte	C	R	-	T	-	8 bit unsigned value DPT_Scali...	Low
6	Channel A	Block I			1 bit	C	-	W	-	-	1 bit DPT_Enable	Low
7	Channel A	Block II			1 bit	C	-	W	-	-	1 bit DPT_Enable	Low
8	Channel A	Scene			1 Byte	C	-	W	-	-		Low
9	Channel A	Electrical load alarm			1 bit	C	R	-	T	-		Low
10	Channel A	Overtemperature alarm			1 bit	C	R	-	T	-		Low
11	Channel A	Automatic 1			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low
12	Channel A	Automatic 2			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low
13	Channel A	Automatic 3			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low
14	Channel A	Automatic 4			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low
60	Central	Switch			1 bit	C	-	W	-	-	1 bit DPT_Switch	Low

The global object acts on all channels, and when the channel opens the global function, it will be controlled by the global object. This means that multiple channels open the global function. One global object command will control multiple channels at the same time. This will help the overall control and reduce the bus load.

The following figure is global object description:

60	Central	Switch			1 bit	C	-	W	-	-	switch	Low
61	Central	Dim absolutely			1 Byte	C	-	W	-	-	percentage (0..100%)	Low

2.2 Channel Object

If a set of channels is forbidden, the corresponding channel object is not displayed, and the corresponding parameters are not configurable.

2.2.1 Dimming Channel Object

The following table is the corresponding object for a channel:

NO.	Function	Use	Length	Data Point Type	Reading/Writing
0	Switch	Switch function	1 bit	DPT 1.001	Writing
1	Stair case light	Delay turn off function	1 bit	DPT 1.001	Writing
2	Dim relatively	Relative dimming	4 bit	DPT 3.007	Writing
3	Dim absolutely	Absolute dimming	1 byte	DPT 5.001	Writing
4	State On/Off	Channel state	1 byte	DPT 1.001	Reading
5	State dim value	Dimming Value	1 byte	DPT 5.005	Reading
6	Block i	Blocking 1	1 bit	DPT 1.001	Writing
7	Block ii	Blocking 2	1 bit	DPT 1.001	Writing
8	Scene	Scene	1 byte	DPT 18.001	Writing
9	Electric load alarm	Overcurrent alarm	1 bit	DPT 3.007	Reading
10	Over temperature alarm	Overtemperature alarm	1 bit	DPT 1.001	Reading
11	Automatic 1	Automatic function 1	1 bit	DPT 1.001	Writing
12	Automatic 2	Automatic function 2	1 bit	DPT 1.001	Writing
13	Automatic 3	Automatic function 3	1 bit	DPT 1.001	Writing
14	Automatic 4	Automatic function 4	1 bit	DPT 1.001	Writing
+15	Next channel				
60	Switch	Global on/off	1 bit	DPT 1.001	Writing
61	Dim absolutely	Global Dimming	1 byte	DPT 5.001	Writing

2.2.2 Online State Object

The online state object indicates that the device is running normally on the bus and sending state actively.

NO.	Function	Use	Data Type	
71	Online State	Send state actively on the bus	No	Output, reading



2.2.3 The Object of the Universal Interface Channel

Each channel has its corresponding five object numbers, which in turn are channel A:80-84;Channel B: 85-89;Channel C: 90-94;Channel D: 95-99.

The object location will be permanently occupied and will not change due to schema changes.

The following table is the corresponding object for a channel:

NO.	Function	Use	Data Point Type	Reading/Writing
80	Switch	Edge Control	DPT 1.001	Reading
80	Send forced setting	Mandatory setting	DPT 2.001	Reading
80	Shutters down/up	Shutter control	DPT 1.008	Reading
80	Dimming on/off	Toggle dimming	DPT 1.001	Reading
80	Switch on/off	Double key control switch	DPT 1.001	Reading
80	Reset counter	Reset counter	DPT 1.001	Writing
80	Send value	Send setting value	DPT 5.001	Reading
80	Push button short	Send short press button	DPT 1.001	Reading
81	Value for toggle	Edge control toggle value	DPT 1.001	Writing
81	Stop/Blinds open/close	Shutter driving/Blinds stop	DPT 1.009	Reading
81	Dimming	Dimming	DPT 3.007	Reading
82	Scene	Scene	DPT 18.001	Reading
82	Value for change of direction	Shutter move direction	DPT 1.001	Reading
82	Push button long	Send long press button	DPT 1.001	Reading
83	Counter	Counter	DPT 12.001	Reading
84	Blocking object	Blocking channel	DPT 1.001	Writing
+5	Next channel			
122	LED output A	LED control	DPT 1.001	Reading

2.2.4 Logic Object

Each device has two logical functions, each logical function is equipped with two logical input objects, a logic output object, and you can choose any channel to participate in the logical operation, object Numbers from 110 to 115.

The following table is the channel A logical object:



Numl	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
110	Logic	Input 1 A			1 bit	C	-	W	T	U	boolean	Low
111	Logic	Input 1 B			1 bit	C	-	W	T	U	boolean	Low
112	Logic	Output 1			1 bit	C	R	-	T	-	switch	Low
113	Logic	Input 2 A			1 bit	C	-	W	T	U	boolean	Low
114	Logic	Input 2 B			1 bit	C	-	W	T	U	boolean	Low
115	Logic	Output 2			1 bit	C	R	-	T	-	switch	Low

The following table is the corresponding object for a logic function:

NO.	Function	Use	Data Point Type	Reading/Writing
110	Logic input 1A	Logic1 input A	DPT 1.001	Writing
111	Logic input 1B	Logic 1 input B	DPT 1.001	Writing
112	Logic output 1	Logic 1 output	DPT 1.001	Reading
112	Logic output 1 Scene	Logic 1 output scene	DPT 18.001	Reading
112	Logic output 1 Value	Logic 1 output value	DPT 5.010	Reading
113	Logic input 2A	Logic 2 input A	DPT 1.001	Writing
114	Logic input 2B	Logic 2 input B	DPT 1.001	Writing
115	Logic output 2	Logic 2 output	DPT 1.001	Reading
115	Logic output 2 Scene	Logic 2 output scene	DPT 18.001	Reading
115	Logic output 2 Value	Logic 2 output value	DPT 5.010	Reading

3 ETS Parameter



3.1 General Setting

Start up timeout: 0 s

Object "In operation" send: No

Debounce Time [ms]: 30 ms

Time for keystroke long [s]: 0,8 s

Behaviour at Bus power up(Input): No read value for toggle Read value for toggle

Parameter Description:

Parameter Name	Range [Default]	Remark
Startup timeout	1-60s [1s]	Start the timeout parameter , after the device waits for the set time of the parameter, the application function is valid.
Send "In operation" object	<ul style="list-style-type: none"> ● No ● Send value "0" cyclic ● Send value "1" cyclic 	The "In operation" object is sent to the bus reporting device to run normally, and the periodic send value can be selected "0" or "1".
Send cycle time in s[1...65535]	1-65535s [60]	Send the "In operation" object cycle time setting.
Debounce time	10-120ms [30]	Signal input buffering time, optional 10ms,30ms,60ms and 120ms.
Time for keystroke long	0.1-30s [0.8s]	Long key determination time (longer than this value is long press button), it is necessary to determine the value when the length of the key is differentiated.
Behavior at bus power up	<ul style="list-style-type: none"> ● No read value for toggle ● Read value for toggle 	When the device is reset, whether to read the toggle value or not, 0 by default .

3.2 Channel

Each channel has the same parameter options, which can be configured differently depending on the need, allowing the channel to perform specific functions.



Function Description

Parameter Name	Range [默认值]	Remark
Channel A	<ul style="list-style-type: none"> ● inactive ● active 	Inactive indicates that the channel is disabled, and the active represents the enabled channel, when the channel parameters can be configured.

If a channel is not used, choose inactive. When the active is selected, the parameters associated with the channel will appear for configuration, and some of the parameters will be selected.

There are more other parameters, as well as group objects, all of which are configured as needed.

3.3 Function

There are three working modes of a channel: (open/close),Dim relatively(relative dimming),Dim absolutely(absolute dimming). When the channel is activated, all three objects will appear, which means that the channel can switch to work mode at any time.

3.3.1 Switching

A channel can work in the open/close mode, which means that the channel only needs to be opened/closed with a 0/1 signal. Unlike normal open/close operation, it can still be set Open/close time. Object State On/Off is used for feedback channel State. When the channel is controlled by an external single key, the object needs to connect to the external single key toggle object to ensure the state rotation.

NO.	Name	Length	Use
0	Switch	1bit	Value 1 opens the channel, value 0 closes the channel.
4	State On/Off	1bit	Indicates the current channel status (on/off).

3.3.2 Dim Relatively

Relative dimming is performed continuous dimming operation on the basis of the current brightness. The step length is 100%, which means the dimming operation is from 0% to 100% or 100% to 0%. The dimming process can be stopped at any time. The dimming speed can be set.

NO.	Name	Length	Use
2	Dim relatively	4 bit	Continuous bright/dark.

3.3.3 Dim Absolutely

In contrast to the relative dimming, absolute dimming does not consider the current brightness value, but instead adjusts the light according to a percentage, dividing the brightness into 100 equal parts and a percentage value corresponds to a brightness setting.

NO.	Name	Length	Use
3	Dim absolutely	1 bit	Set the brightness to a specified value..

3.4 Parameter

3.4.1 Load Type

Choose the appropriate load type to ensure the normal operation of the equipment, trailing edge and leading edge are very important.

Load type

omic/capac. load (trailing edge) ▼

omic/capac. load (trailing edge)

Inductive loads/convent. transf. (leading edge)

ESL /LED without transformer (leading edge)

ESL/LED/Halogen with electr transf (trailing edge)

ESL without transform. (leading edge) 100% Start

Name	Option [Default]	Remark
Load type	<ul style="list-style-type: none"> ● omic/capacitive load(trailing edge) ● inductive loads/conventional transf.(leading edge) ● ESL/LED without transformer(leading edge) ● ESL/LED/Halogen with electronic transf.(trailing edge) ● ESL without transf. (leading edge),100%Start. 	<ul style="list-style-type: none"> ● omic/capacitive load(trailing edge) ● inductive loads (leading edge) ● ESL/LED without transformer(leading edge) ● ESL/LED/Halogen with electronic transf.(trailing edge) ESL without transfer (leading edge),100%Start.

3.4.2 Time Functions

The dimming process can be set in two kinds of time: one ON/OFF time, which is used for Switching/Dim absolutely the two modes; the other one is the dimming time which is used for relative Dim works. In addition, the channel can be configured to work in the Staircase mode, which will automatically close after opening for a period of time.

3.4.2.1 On/Off Delay

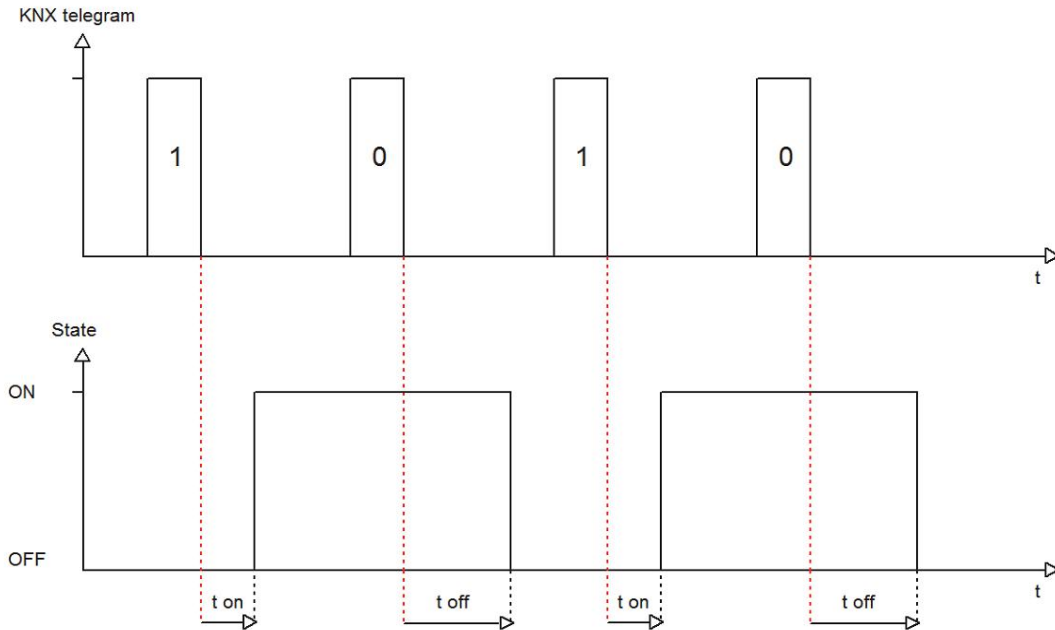
The On/Off object is used for the delay before the channel opens/closes.

On delay	10 s
Off delay	no delay

Name	Option [Default]	Use
On/Off delay	no delay , 1s, 5s, 10s, 15s, 20s, 30s, 45s, 60s, 2min, 3min, 4min, 6min, 7min, 8min, 9min, 10min,	Set on/off delay value.

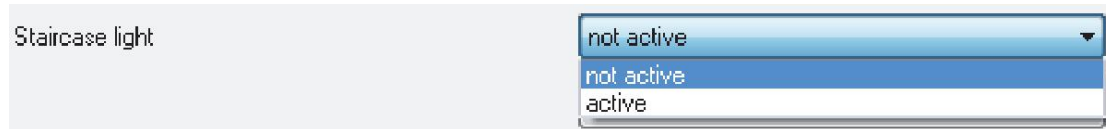
The parameter On delay acts on the open operation, and Off delay acts on the closing operation.

The following diagram shows the delay:



3.4.2.2 Staircase Light

The corridor lighting mode can be configured to close the channel automatically when the delay time is used. To use this function, the parameter activation must be selected:



When the function of the building is activated, a new parameter selection menu will appear.



Duration for staircase [s]	90
Prewarning	active
Prewarning duration in [s]	0
Value of dimming down	20%
Extension	not active
Deactivation	not active

名称	选项 [默认]	备注
Duration staircase	0-30000s [90s]	The channel opens for a duration and then closes automatically.
Prewarning	<ul style="list-style-type: none"> ● active ● not active 	Activate the warning function. If the function is not opened, the channel will not give warning instructions before closing.
Prewarning Duration in[s]	0-30000s [0s]	Early warning time is used to indicate that the channel is closing.
Value of dimming down	1-100% [20%]	Warning behavior can be set to a certain percentage of brightness to indicate that the channel is closing.
Extension	<ul style="list-style-type: none"> ● active ● not active 	After expansion option, activate the function, when the channel is open, open up the command, and received channel open duration will recount, the channel can be in a state of continuous open. If this parameter is have no choice, the channel will ignore other open orders received during open, also is to have to wait for channel automatically shut down after to receive external command again.
Deactivation	<ul style="list-style-type: none"> ● active ● not active 	This option is used to activate external close function. When select this function, if you receive a shutdown command, then the channel will be shut down. Otherwise, without activating this function, the channel will ignore all shutdown command received. Channels can only be shut down automatically, rather than via an external command to shut down.

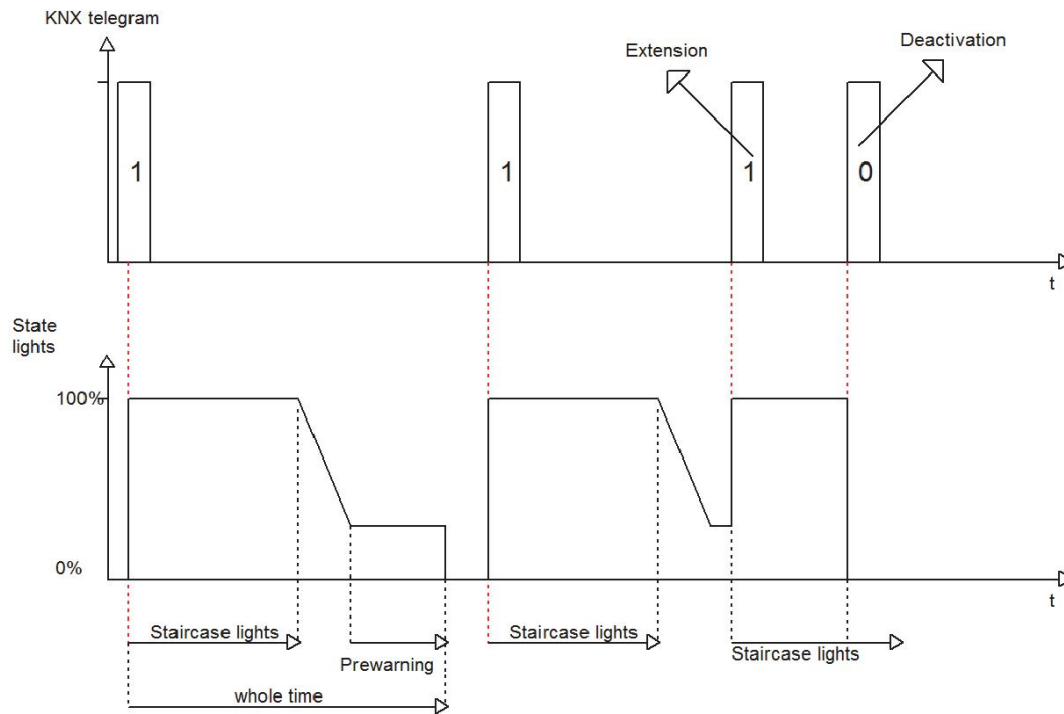
When the building function is activated, a Stair case light object will appear to replace the original Switch object:

NO.	Name	Length	Use
-----	------	--------	-----

1	Stair case light	1 bit	Used for building function command reception.
---	------------------	-------	---

The channel function does not respond to Dim relatively and Dim absolute commands. Therefore, the channel does not automatically close after processing the light command received by these two objects, but it needs to receive external commands to close.

The following figure is the schematic diagram of the corridor function, and the channel warning brightness is set to 20%, which activates the extension and deactivation functions:



3.4.3 Absolute Values

The dimming area can be limited to a certain range.

3.4.3.1 Starting Behavior

This parameter is used to set the channel to open/close behavior, and it is valid for the Switch/Dim absolutely two objects:



Starting behaviour	On-value setting ▼
Value of start up	100% ▼
Start up speed	1 s ▼
Switch off speed	1 s ▼

Name	Option [Default]	Remark
On-value setting	Sub-function: value of start up 1-100% [100%]	This parameter sets the brightness value when the channel receives the Switch object's open command.
Last light value(Memory)		This parameter indicates that the channel receives the last brightness value of the Switch object before the last channel is closed.
Start up speed /Switch off speed	1s-240s [1s]	Set the channel to open/close the dimming time. Valid for two objects of Switch/Dim absolutely.

Although the parameter value for startup can set the brightness value when the channel opens, the parameter is still restricted by the dimming area, if the value is set greater than the maximum set in the dimming area, so the brightness value set after the channel is opened is the maximum value set by the dimming area. If the value of this parameter is less than the adjustment minimum value set by the optical region, then the luminance value set by the channel after opening is the minimum value of the dimming area.

For the parameter Last light value, it represents the value that is set when the channel changes from the closing state to the open state, for example: the channel is dimmed to 60% brightness and then turned off. When it is opened again, the channel brightness will be set to 60%, which is the brightness value of the last time it was opened.

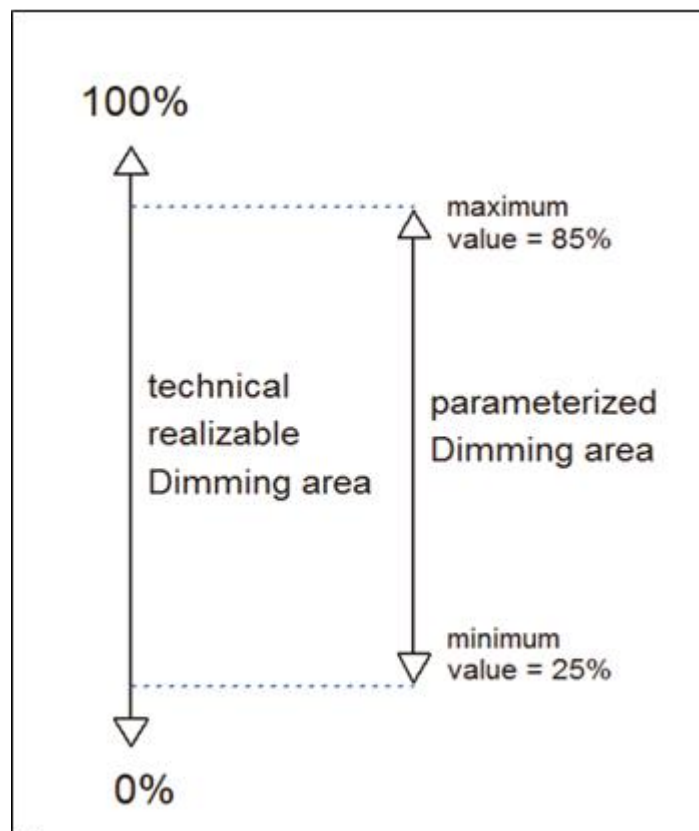
All of the above parameters are valid for the Switch object, but Dim absolutely objects are only affected by the parameters Start up speed /Switch off speed. The object Dim relatively is not affected by these parameters.

3.4.4 Dimming Area

Set the dimming area by parameter "minimum light" and "maximum light". This brightness will vary only within the specified range.

Minimum light	30%
Maximum light	100%

Name	Option [Default]	Remark
Minimum light	1-100% [1%]	Minimum allowable brightness value.
Maximum light	1-100% [100%]	Maximum allowable brightness value.



If you want to limit the brightness to a certain area, you can set the parameter Minimum. Light and Maximum Light are implemented. Each channel can be set with different restricted areas to accommodate different lamps. When the channel sets the restricted area, the brightness will only change in the restricted area. As shown in the left, the maximum brightness is 85%, the minimum



brightness is 25%, then through open switch object receives a command when the channel is brightness will not 100%, but 85%, because of the limitation of maximum brightness by parameters. When the brightness is reduced by relative dimming or absolute dimming, the minimum brightness will be 25%, not 1%, or any other value. However, when the channel is closed by switching objects, the channel brightness will be 0%. By reducing the maximum brightness of the lamp, it can effectively improve the life of the lamp. Therefore, this parameter can be modified for situations where the brightness requirement is not high.

3.4.5 Specific Dimming Settings

You can set the dimming behavior, state feedback and so on, and select the appropriate parameters according to the actual situation.

Dimming speed [s]	<input type="text" value="5"/>
Send dimming value after change (min. 2%)	<input type="text" value="active"/>



3.4.5.1 Dimming Speed

The dimming speed setting can control the brightness change, making the dimming smoother.

Name	Range [Default]	Remark
Dimming speed[s]	1-120s [5s]	The time of setting the brightness from 0% to 100%

Each channel can have a separate set of dimming time. The longer the time, the higher the accuracy, because almost every scale can be processed, and on the contrary, the time is too short. Multiple scales may be skipped. It is usually appropriate to set 5-8s. Note that this parameter only has effect on the relative dimming, which is not affected by the switch object or absolute dimming object.

3.4.5.2 Send Dimming Value After Change

The dimming value feedback can display the current brightness in real time, activate the parameters and open the function.



Naame	Range [Default]	Remark
Send dimming value after change(min. 2%)	<ul style="list-style-type: none"> ● not active ● active 	When the dimming value changes at least 2%, the actual dimming value is sent.

A state object that reflects the value of the dimming value will appear after the activation of the send dimming function, and the actual value of the dimmer will be sent when the condition is satisfied (at least 2%).The dimming object size is 1 byte.

编号	名称	Length	Use
5	State dim value	1 byte	Send the actual light value by percentage

3.4.6 Alarm Functions

It can activate some alarm functions, such as: temperature alarm, overload alarm.

Overtemperature alarm: not active

Electrical load alarm: active

The alarm function can be used as an auxiliary function of background monitoring to facilitate better management and monitoring equipment status.

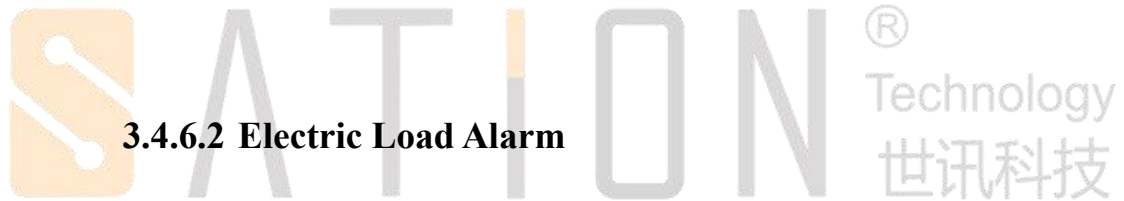
3.4.6.1 Over Temperature Alarm

Name	Range [Default]	Remark
Over temperature alarm	<ul style="list-style-type: none"> ● not active ● active 	When the temperature is too high, the overtemperature alarm will be triggered and the red LED will be lit.

When the overtemperature alarm function is activated, a new communication object is used to indicate the alarm status, and the communication object is 1 bit.

NO.	Name	Length	Use
10	Over temperature alarm	1 bit	When alarm, send a value of 1.

In order to avoid because of the high temperature lead to equipment damage, each channel is equipped with temperature detection, when the temperature more than internal threshold, the corresponding channel will generate alarm, and channel brightness will be reduced to 50%, after 30 seconds, if the temperature is still too high, the channel will be shut down. After the temperature returned to normal, the channel before the brightness will not return to the brightness of the value, that is to say, channel brightness is reduced to 50%, and after the temperature returned to normal, the brightness will remain at 50%, must by sending a new command to change the dimming value. If the channel is closed, the temperature will return to normal and a new command will be sent to modify the brightness.



3.4.6.2 Electric Load Alarm

Overload alarm includes overpower and short circuit. When the alarm is generated, the same as the temperature alarm, the corresponding channel red LED light will light up. If the detection is still overloaded after 30 seconds, the alarm will continue until the fault is processed.

Name	Range [Default]	Remark
Electric load alarm	<ul style="list-style-type: none"> ● not active ● active 	Overload alarm must be activated.

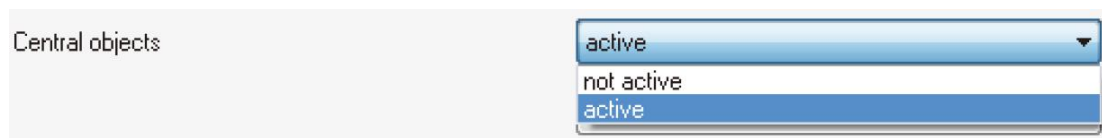
NO.	Name	Length	Use
9	Electric load alarm	1 bit	A 1 signal will be sent to the alarm.

3.4.7 Central Objects

The role of total control is to deal with the same equipment with multiple channels, the advantage is no command to each of the channels separately, can save operation, reduce the message on the bus. Each channel can choose whether to join the total control operation, only the channel that



activated the total control function is controlled by the total control object.



Name	Range [Default]	Remark
Central objects	<ul style="list-style-type: none"> ● not active ● active 	When you select active, the channel responds to the total control object command.

There are two total control objects: Switch (Switch object), Dim absolutely (absolute dimming object). The switch object can control the opening and closing of the channel that activates the total control function. Absolute dimming objects can control the channel to the specified dimming value.

Although the master control can control multiple channels to act together, the behavior of each channel is affected by their respective parameters. Such as: channel A limiting the most major brightness is 90%, and channel B limits the most major light value of 70%, then the total open orders are received, the controlled channel A open the brightness is 90%, the open channel B brightness will be 70%.

NO.	Name	Length	Use
60	Switch	1 bit	Open/close all channels that activate this function.
61	Dim absolutely	1 byte	Dimming all the channels that activate this function.

3.4.8 Scene Function

The simplest way to achieve multiple functions, such as lighting, air conditioning, and curtains, is to use the scene function. Normally, in order to turn on the lights, the air conditioner is cooled, and the curtains are opened and that requires at least three commands to achieve the goal, which is to press at least three different buttons. It can be tedious to do so. Then, the benefits of the scene are shown, and a single keystroke can be used to automatically move the devices to a certain state.

Each channel of the device type for each executor can be configured with up to eight scenarios. Once the scene function of the activation channel is enabled, the channel can respond to the scenario command.

Scenarios can also configure learning capabilities. When the learning function of the activation channel is enabled, the channel will save the current value and replace it when the learning



command is received through the scene object.

Previously configured values, this allows you to modify the scene function of the channel flexibly.



NO.	Name	Length	Use
8	Scene	1 bit	Scene call object

Scenario number to call is through the scene, the scene for the range of 1-64, but the corresponding value of 0-63 to the actual scene, that is, when the number set the scene for 1, send the value of the actual object is zero, the scene number to 64, the value of the object is actually 63. This transformation is automatically converted by the device's internal program, which is only required to select one from the 1-64 number as a scenario number through the ETS configuration.



3.4.8.1 Submenu Scene


A channel can be configured with 8 scenarios, which is a channel with up to 8 scenarios, which is sufficient for general applications.

The following figure shows A scene configuration screenshot: scene A number 44, the adjustment value is 30%, scene B number 41, the adjustment value is 40%, scene C is not activated, and the learning function is opened.



Scene Channel A

Save scene	enabled
Scene Nr. A	44
Light value scene A	30% light
Scene Nr. B	41
Light value scene B	40% light
Scene Nr. C	inactive
Light value scene C	Off

Name	Range [Default]	Remark
Save scene 	<ul style="list-style-type: none"> ● disabled ● enabled 	Activate the learning function. If the function is not activated, the learning command received will be ignored.
Scene Nr.A-[H]	1-64,inactive [inactive]	The scenario number is used to determine which of the eight scenarios is invoked.
Light value scene A-[H]	Off,10%,20%,30%,40%,50%,60%,70%,80%,90%,100% [off]	The behavior of the scenario execution.

The execution of the scenario is also affected by the channel parameters, and the execution of the scenario is the same as absolute dimming, subject to the same parameter constraints.

A channel can configure up to eight scenario patterns, so it is possible to distinguish between the current invocation and the scenario pattern by the scenario number. The number of different scenario pattern configurations for the same channel should be unique.

The call function and learning function of the scene use the same scene object, but the value is different, as shown in the following table:

Scene No.	Call		Learning	
	Sexadecimal	Decimalism	Sexadecimal	Decimalism
1	0x00	0	0x80	128
2	0x01	1	0x81	129
3	0x02	2	0x82	130



4	0x03	3	0x83	131
5	0x04	4	0x84	132
6	0x05	5	0x85	133
7	0x06	6	0x86	134
8	0x07	7	0x87	135
9	0x08	8	0x88	136
10	0x09	9	0x89	137
11	0x0A	10	0x8A	138
12	0x0B	11	0x8B	139
13	0x0C	12	0x8C	140
14	0x0D	13	0x8D	141
15	0x0E	14	0x8E	142
16	0x0F	15	0x8F	143
17	0x10	16	0x90	144
18	0x11	17	0x91	145
19	0x12	18	0x92	146
20	0x13	19	0x93	147
21	0x14	20	0x94	148
22	0x15	21	0x95	149
23	0x16	22	0x96	150
24	0x17	23	0x97	151
25	0x18	24	0x98	152
26	0x19	25	0x99	153
27	0x1A	26	0x9A	154
28	0x1B	27	0x9B	155
29	0x1C	28	0x9C	156
30	0x1D	29	0x9D	157
31	0x1E	30	0x9E	158
32	0x1F	31	0x9F	159

3.4.9 Automatic Function

Each channel can activate four automatic function objects, each of which can set a dimming value. What is different from the scene function is that the scene object is 1 byte size, Automatic function object size is 1 bit.

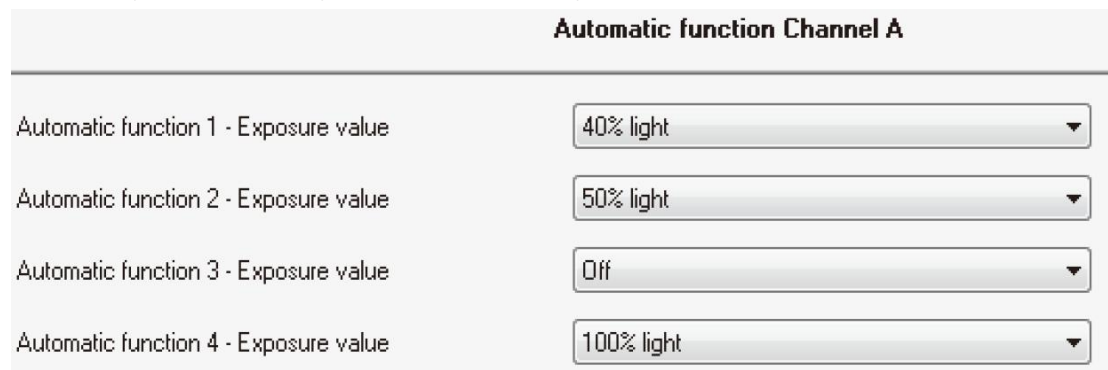
Automatic function

NO.	Name	Length	Use
-----	------	--------	-----



11	Automatic 1	1 bit	Invoke the automatic function object 1.
12	Automatic 2	1 bit	Invoke the automatic function object 2.
13	Automatic 3	1 bit	Invoke the automatic function object 3.
14	Automatic 4	1 bit	Invoke the automatic function object 4.

The following figure is a screenshot of automatic object configuration: object 1 has a light value of 40%, object 2 is 50%, object 3 is closed, and object 4 is 100%.



Name	Range [Default]	Remark
Automatic function1-[4]-Exposure value	Off,10%,20%,30%,40%,50%,60%,70%,80%,90%,100%	Defines the output value of the automatic object.

3.4.10 Additional Functions

Each channel also has some additional features, such as blocking function, upper/lower electrical behavior, etc. Some special USES can be achieved through additional functionality.

The following figure shows A screenshot of the additional features of channel A: when blocking object 1 is blocked, the channel brightness is 100%, and it is still 100% when it is not blocked. When blocking object 2 is blocked, the brightness remains the same. When it is not blocked, the brightness is set to 100%.When the bus drops, set the brightness to 35%.When the bus is energized, the brightness is restored to the value of the power drop.

Additional functions A

Behavior at Block I = value 1	Light value
Light value	100% light
Behavior at Block I = value 0	Light value
Light value	100% light
Behavior at Block II = value 1	no change
Behavior at Block II = value 0	Light value
Light value	100% light
Behavior after power off	35%
Behavior after reset	Last value



3.4.10.1 Blocking Objects

Name	Range [Default]	Remark
Behavior at Block 1 = value 1	Off,nochange,Lightvalue(10%,20%,30%,40%,50%,60%,70%,80%,90%,100%) [no change]	Defines the dimming behavior when the object is blocked.
Behavior at Block 1 = value 0	Off,nochange,Lightvalue(10%,20%,30%,40%,50%,60%,70%,80%,90%,100%) [no change]	Defines the dimming behavior when the object is returned to normal.
Behavior at Block 2 = value 1	Off,nochange,Lightvalue(10%,20%,30%,40%,50%,60%,70%,80%,90%,100%) [no change]	Defines the dimming behavior when the object is blocked
Behavior at Block 2 = value 0	Off,nochange,Lightvalue(10%,20%,30%,40%,50%,60%,70%,80%,90%,100%) [no change]	Defines the dimming behavior when the object is returned to normal.

When the channel is blocked, the channel no longer responds to the normal object command. Each channel has two blocking objects, object 1 and object 2. When a channel is blocked, what should



be done, such as setting a luminance value, or closing the channel, and so on.

Blocking object 1 has precedence over blocking object 2. When blocking object 2 received blocking command, channel perform blocking object 2 corresponding operation, then, blocking object 1 also received orders, then the channel will execute the object 1 corresponding operation, if the blocking object 2 received 0 (restoration) command, the command will not be performed because, blocking object 1 is still blocked, only when the blocking object 1, after receipt of the zero value (restoration) command object 2 operation. In other words, all operations that block object 2 will not be executed as long as the blocking object 1 is blocked, unless the blocking object 1 is in a non-blocking state.

NO.	Name	Length	Use
6	Block 1	1 bit	Activation/inerting block object 1.
7	Block 2	1 bit	Activation/inerting block object 2.

3.4.10.2 Behavior After Power off/after Reset

When the bus is on or off, the channel can be configured to better control the state of the lamp.

Name	Range [Default]	Remark
Behavior after power off	No reaction, off, 20%,35%,50%,65%,80%,100% [no reaction]	Define the channel behavior when the bus loses power.
Behavior after reset	Off,/On, last value, Light value(10%,20%,30%,40%,...,100%) [last value]	Define the channel behavior of the power on the bus

The precondition for the implementation of/on the bus is that the strong wire of the device is electrified. Each channel can be configured independently/under electrical behavior.

3.4.11 Input Channel Configuration

Parameter Name	Range [Default]	Remark
Function Input Type A / B 、 C / D	<ul style="list-style-type: none"> ● Channels unique ● Channels grouped 	Channel working mode: Channels unique means that Channels work in independent mode; Channels are represented as channel work in combination mode;
Function Input A, B, C, D; Function Input A / B, C / D	<ul style="list-style-type: none"> ● disabled ● enabled 	Disabled means that the channel does not work; Enabled means that the channel works;

3.4.11.1 The Input Channel is Configured With the Same Parameters

Blocked objects:

Function Input Type A / B	<input checked="" type="radio"/> Channels unique <input type="radio"/> Channels grouped
Function Input A	<input checked="" type="radio"/> disabled <input type="radio"/> enabled
Function Input B	<input checked="" type="radio"/> disabled <input type="radio"/> enabled
Function Input Type C / D	<input checked="" type="radio"/> Channels unique <input type="radio"/> Channels grouped
Function Input C	<input checked="" type="radio"/> disabled <input type="radio"/> enabled
Function Input D	<input checked="" type="radio"/> disabled <input type="radio"/> enabled

Each channel can activate the blocking function, and each channel function has its own blocking object.

NO.	Name	Length	Use
-----	------	--------	-----



84	Blocking object	1bit	When the value 1 is received, the blocking channel (the channel will no longer generate any action), the value 0 returns to normal.
----	-----------------	------	---

3.4.12 Composite Pattern Parameter Configuration

Parameter Name	Range [Default]	Remark
Input A/B	<ul style="list-style-type: none"> ● Dimming ● Shutter ● Switch 	Work mode selection: dimming, curtain, switch
Dimming function A/B	<ul style="list-style-type: none"> ● Brighter/Darker ● Darker/Brighter 	Set the dimming mode, the former is A and the latter is B
Shutter function A/B	<ul style="list-style-type: none"> ● Up/Down ● Down/Up 	Set the curtain control. The former is A and the latter is B.
Switch function A/B	<ul style="list-style-type: none"> ● On/Off ● Off/On 	Set the switch mode, the former is A and the latter is B.
Blocking Object	<ul style="list-style-type: none"> ● Inactive ● Active 	Set blocking function by default.

When selecting a combination mode, the adjacent two channels will be configured to combine functions.

3.4.12.1 Dimming Control

Two key dimming function work in combination mode.

The following figure is the parameter option:

Input A / B

Input A / B	<input type="text" value="Dimming"/>
Dimming Function A / B	<input type="text" value="Brighter/Darker"/>
Blocking Object	<input type="text" value="Inactive"/>

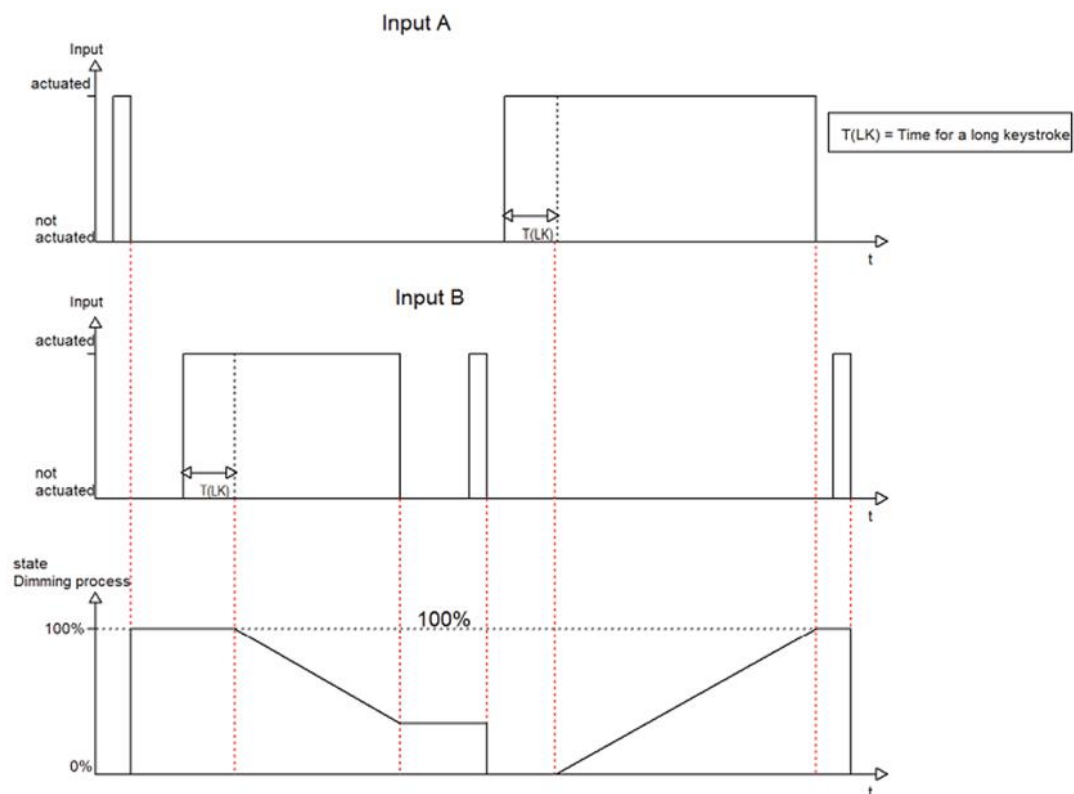


NO.	Name	Length	Use
80	Dimming on/off	1 bit	Switch function, short button is valid
81	Dimming	4 byte	Dimming function, long key is effective

When a group of channel configured to the dimming function, there will be two objects, a corresponding short key, one object used to control and off, a long four object corresponding to the key, is used to control the dimming.

Brighter/part or part/Brighter optional configuration, the former corresponds to the first input, the latter corresponding to the second input. For example: A channel to be Brighter/part A/B, the channel A is the bright, channel B is dim. Short key channel A direct lights, channel B, shut the lights directly. Long keys, channel A move bright light according to the set time is slow, slow channel B dim the lights. Long keys that move light, midway at any time to loosen keystrokes, stop that move light, light to keep the current brightness, dimming again will continue to start from the current brightness adjustable light. When the brightness to the maximum or minimum brightness changes no longer.

The image below is a two-channel dimming:



3.4.12.2 Shutter Control

Two key curtain control. Can control curtain, shutter.

The following figure shows the parameters:

Input A / B	Shutter
Shutter Function A / B	Up, Down
Operation function	Long=move / short=stop/slats
Blocking Object	Inactive

NO.	Name	Length	Use
80	Shutter Down/Up	1 bit	Drive the curtain up and down, long button effective
81	Stop/Blinds Open/Close	1 bit	Stop moving, the short button is valid

When curtain of channel A/B is configured to control, and parameter selection Up/Down, the long press A button, the device will send A signal, the curtain will move Up, long press B button, the device will send A 1 signal, the curtain will move Down. Short press A or B will be sent to stop signals. If the parameter selection Down/Up, the function of A/B swap. If the operation mode selection for short = move/long = stop/slats, the short keys that move light, long button to stop

3.4.12.3 Switch Control

When two channels are configured to switch mode, switch control can be realized.

Input A / B	
Input A / B	Switch
Switch function A / B	on / off
Blocking Object	Inactive

NO.	Name	Length	Use
80	Switch On/Off	1 bit	Switch object



When the channel A/B is configured as A combination switch mode, and the parameter On/Off is selected, press A to send 1 signal, and press B to send 0 signal.

3.4.13 Independent Pattern Parameter Configuration

There are 7 options for channel work:

- Switch
- Switch short/long
- One button dimming
- One button shutter
- Counter
- Scene
- LED output

When Inactive is the channel bar, and the corresponding parameters of the channel are no longer displayed.



3.4.13.1 Switch

The switch function can respond to different keystrokes (press, release), and delay sending. There will be more when you are selected for a sub-option.

For other parameter options, see the following section.

The following figure is the switch function option.

Input C

Function	Switch ▼
Subfunction	<div style="border: 1px solid gray; padding: 5px;"> Toggle falling edge ▼ Switch rising edge Toggle rising edge Switch falling edge Toggle falling edge Send Status Send value rising edge (1Byte / 2Bit) Send value falling edge (1Byte / 2Bit) Send value both edges (1Byte / 2Bit) Send Status with on-delay Send Status with off-delay </div>
Blocking Object	Inactive ▼

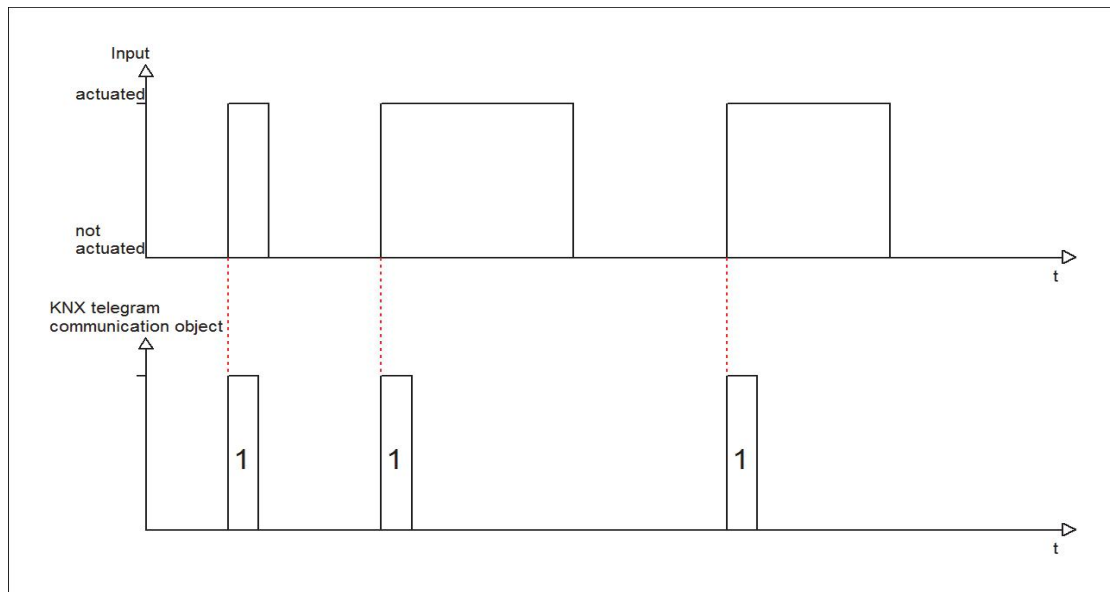
3.4.13.1.1 Switch Falling Edge/Rising Edge/Both Edge

Edge Configuration Parameter Table:

Parameter Name	Range [Default]	Remark
Value for rising/falling edge	<ul style="list-style-type: none"> ● On ● Off 	Open/close can be pressed/released at will

When the channel chooses the edge Switch rising edge or the Switch falling edge, a On or Off signal will be sent under the corresponding action.

The following figure shows the channel configuration as the Switch rising edge, and the effect of sending On signal:

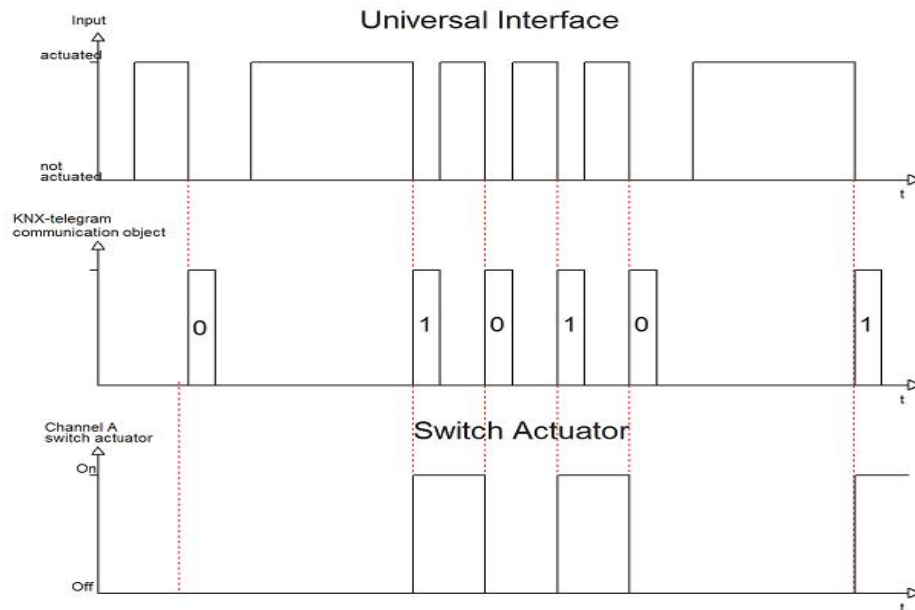


NO.	Name	Length	Use
80	Switch	1 bit	Press the button to send corresponding signal, long press/short press are no influence

3.4.13.1.2 Toggle Rising/Falling Edge

Rising channel can be configured to delay (press), or fall (release) toggle output. Each toggle based on State feedback last time, that means will toggle the object (Value for toggle) (State) associated with the target State object to work properly.

The following figure shows the channel configured as a drop delay (release), and the rollover function.



NO.	Name	Length	Use
80	Switch	1 bit	Press the button to send corresponding signal, long press/short press are no influence.
81	Value for toggle	1 bit	The connection status object, which reflects the current state of the target, is used to toggle the function.

Object Value for toggle to flip the normal implementation of function, therefore, must connect it to the target channel on the state of the object, if there is no target object, you should connect the Switch to the channel object. Also can be configured on the device when read updates the object values, to that of the target state.

3.4.13.1.3 Send Status

When the channel is configured with a Switch and the Send Status function, the channel can Send a set value when it is up or down.

Function	Switch
Subfunction	Send Status
Value for rising edge	On
Value for falling edge	Off
Blocking Object	Inactive
Behaviour at Bus power up	send nothing
Send cyclic activ	Off

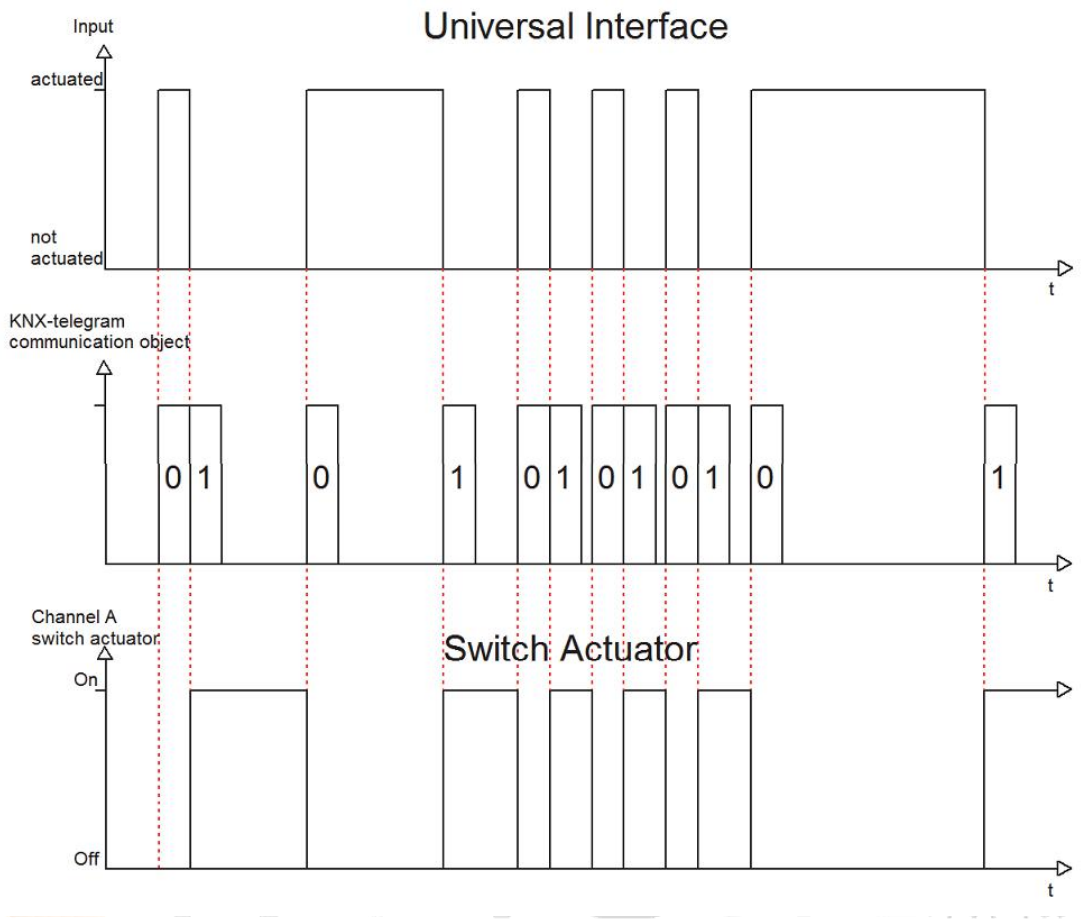
Parameter	Range [Default]	Remark
Value for rising edge	<ul style="list-style-type: none"> ● On ● Off 	Send the signal when pressed.
Value for falling edge	<ul style="list-style-type: none"> ● On ● Off 	Send the signal when released.
Send cycle	<ul style="list-style-type: none"> ● Off ● On 	Periodically send signals
Time interval for send cyclic	1-3000s [1]	Interval time
Behavior at bus power up	<ul style="list-style-type: none"> ● Send nothing ● Send status 	Whether the bus is sent or not when it is on power

Object Description

NO.	Name	Length	Use
80	Switch	1 bit	Send switch value, no difference between short and long key

Send state function can be used to perform some special functions, testing closed state, for example, the opening and closing of the window, when touch point with a window, so the Send status function can be used to make the window state to monitor. The current input state can also be sent periodically.

The following figure shows the send 0 signal, and the sending 1 signal is released:



3.4.13.1.4 Send Value Rising/Falling/Both Edges

There are two values that can be sent, one byte, one two, depending on your choice.



Function	Switch
Subfunction	Send value both edges (1Byte / 2Bit)
Value (1Byte) / forced setting (2Bit)	1 Byte value
Value for rising edge	0
Value for falling edge	0
Behaviour at Bus power up	send nothing
Blocking Object	Inactive

The following table is 1 byte value parameter:

Parameter	Range [Default]	Remark
Value for rising/falling edge	0-255 [0]	Sends a 1 byte value on the set edge (up, down)

For a 1 byte object, it can send any value within a range of 0-255 depending on your Settings.

The following is the object description:

NO	Name	Length	Use
80	Send value	1 bit	Send setting value

The following table is two value parameters:

Parameter Name	Range [Default]	Remark
Send forced setting at rising/falling	<ul style="list-style-type: none"> ● Forced setting not active ● Forced setting off ● Forced setting on 	Send a 2 bit value on the set edge (up, down)

The two objects can be used to do some, for example, human body induction automation control.

The parameters are as follows:

● Forced setting not active (control = 0, value = 0)

Body sensors work normally.

● Forced setting off (control = 1, value = 0)

The body's sensors are forced to shut down and no longer sense the external environment.

● Forced setting on (control = 1, value = 1)

Body sensors are forced to open.



Two value objects:

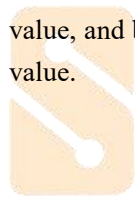
NO	Name	Length	Use
80	Send forced setting	2 位	Send setting value.

3.4.13.1.5 Send Value With On/Off Delay

The following table shows the delay sending parameters:

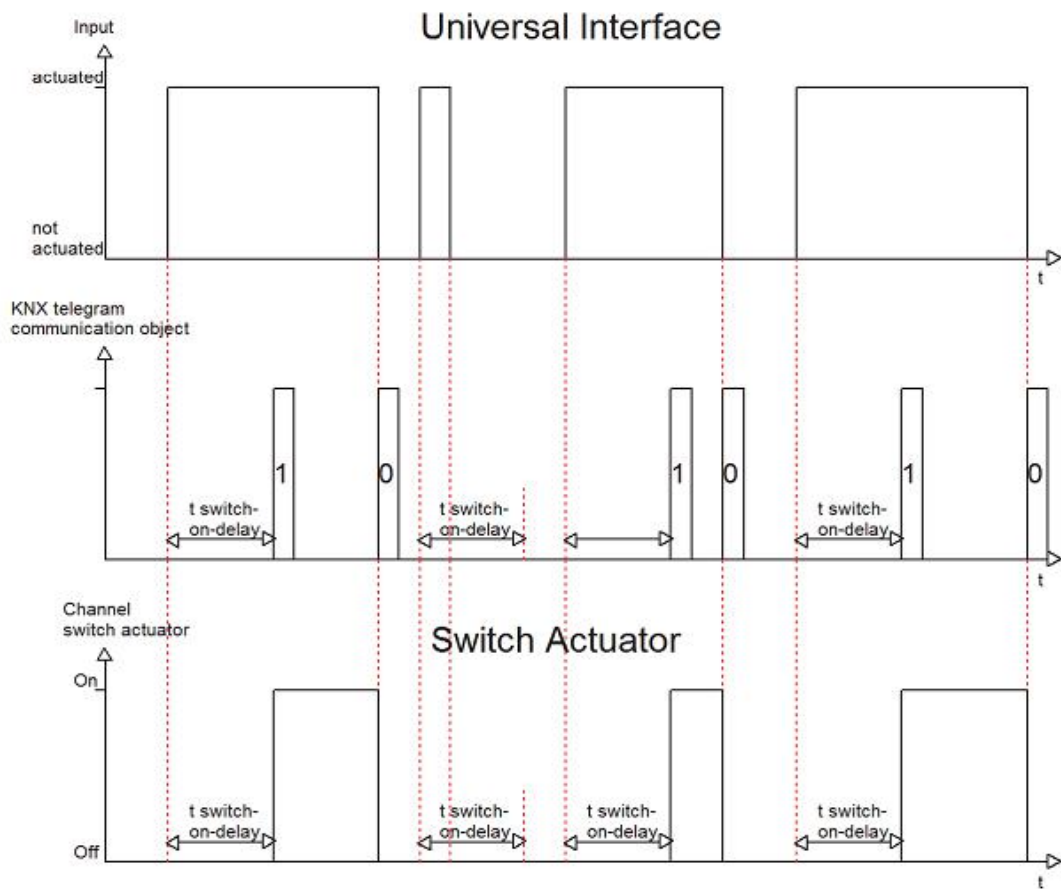
Parameter Name	Range [Default]	Remark
Delay time	0-60min [1s]	Send value after delay setting time

To Send sub- function value with on/off delay, is Send on or off value, delay some time before we Send. If prior to the completion time delay, the channel back to the previous state, the time delay end ahead of time, and do not Send values. For example, channel press, Send delay 3 seconds on value, and before the time arrived, channel was released, the channel delay end, no longer Send on value.



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Parameter:

Function	Switch
Subfunction	Send Status with off-delay
Delay time	1 s
Blocking Object	Active

Object Description:

NO	Name	Length	Use
80	Switch	1 bit	Press the delay to send the On value, and release the delay to send Off the value.

3.4.13.2 Scene

Scene function can be used to control one or more actuators of multiple channels, in order to realize the state of a scene. In addition, in the case of active learning function, can be sent through long key learning command.

Function	Scene
Subfunction	Save
Scene Number	1
Blocking Object	Inactive

Parameter Description:

Parameter	Range [Default]	Remark
Saving function	<ul style="list-style-type: none"> ● No save ● Save 	When the save function is activated, the long key can learn and save the current channel value.
Scene number	1-64 [1]	The scenario number must be configured to be the same as the actuator
Blocking object	<ul style="list-style-type: none"> ● Inactive ● Active 	Blocking object, by default.

NO.	Name	Length	Use
82	Scene	1 bit	Sending scene value

Short key is sent to set the scene, with the same group address actuators scene object will receive scene, and perform the corresponding action. When the activation of the function of learning, learn by long keys will be sent a command to the associated actuators, actuators will save the current channel status to the corresponding scenario.

The following table sends and saves the corresponding values for the scene:

Scene	Send	Save
-------	------	------



	Hex.	Dez.	Hex.	Dez.
1	0x00	0	0x80	128
2	0x01	1	0x81	129
3	0x02	2	0x82	130
4	0x03	3	0x83	131
5	0x04	4	0x84	132
6	0x05	5	0x85	133
7	0x06	6	0x86	134
8	0x07	7	0x87	135
9	0x08	8	0x88	136
10	0x09	9	0x89	137
11	0x0A	10	0x8A	138
12	0x0B	11	0x8B	139
13	0x0C	12	0x8C	140
14	0x0D	13	0x8D	141
15	0x0E	14	0x8E	142
16	0x0F	15	0x8F	143
17	0x10	16	0x90	144
18	0x11	17	0x91	145
19	0x12	18	0x92	146
20	0x13	19	0x93	147
21	0x14	20	0x94	148
22	0x15	21	0x95	149
23	0x16	22	0x96	150
24	0x17	23	0x97	151
25	0x18	24	0x98	152
26	0x19	25	0x99	153
27	0x1A	26	0x9A	154
28	0x1B	27	0x9B	155
29	0x1C	28	0x9C	156
30	0x1D	29	0x9D	157
31	0x1E	30	0x9E	158
32	0x1F	31	0x9F	159

3.4.13.3 Counter

The counter function can be used to count the number of switches. It can be configured as a rise delay count, a drop delay count, or a lower down count.



Function	Counter
Subfunction	Count rising and falling
Sending difference	5
Blocking Object	Inactive

Parameter Description:

Parameter Name	Range [Default]	Remark
Sub-function	<ul style="list-style-type: none"> ● Count rising ● Count falling ● Count rising and falling 	In setting the edge count, count down up and down by default
Sending difference	0-65535 [5]	The current value is sent for each increment of the set value.
Blocking object	<ul style="list-style-type: none"> ● Inactive ● Active 	Blocking function

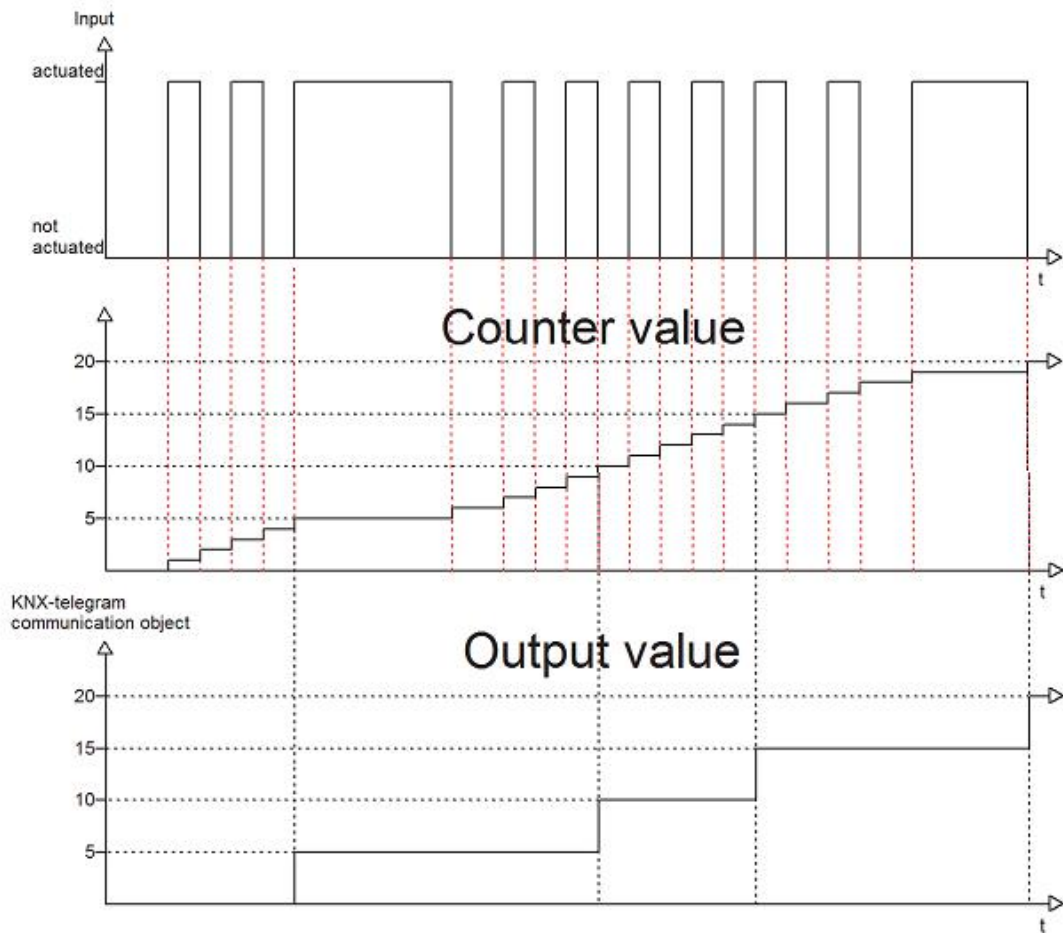
Object Description:

NO.	Name	Length	Use
80	Reset Counter	1 bit	Reseat Counter
83	Counter	4 byte	Output counter value

Counter at the edge of the set of counting. Suppose, set to increase/decrease count, sending interval is 5, increased delay counting time, drop in counting time, count to five will be sent when the current count value, when the count reaches 10 send count again, and so on.

The communication object reset counter is used to reset the counter value to 0, and the object value 0,1 is valid.

The following figure shows the increase/decrease delay count, and send interval 5:



3.4.13.4 Switch short/long

Long press/short can be independently assigned to open/close/flip/send values and other functions.

Function: Switch short/long

Value for keystroke short - Object 1: On

Value for keystroke long - Object 2: Toggle

Blocking Object: Inactive

Parameter Name	Range [Default]	Remark
Value for keystroke short object 1	<ul style="list-style-type: none"> ● On ● Off ● Toggle ● Send value ● Nothing 	Working on short key
Value for keystroke long object 2	<ul style="list-style-type: none"> ● On ● Off ● Toggle ● Send value ● Nothing 	Working on long key
Blocking object	<ul style="list-style-type: none"> ● Inactive ● Active 	

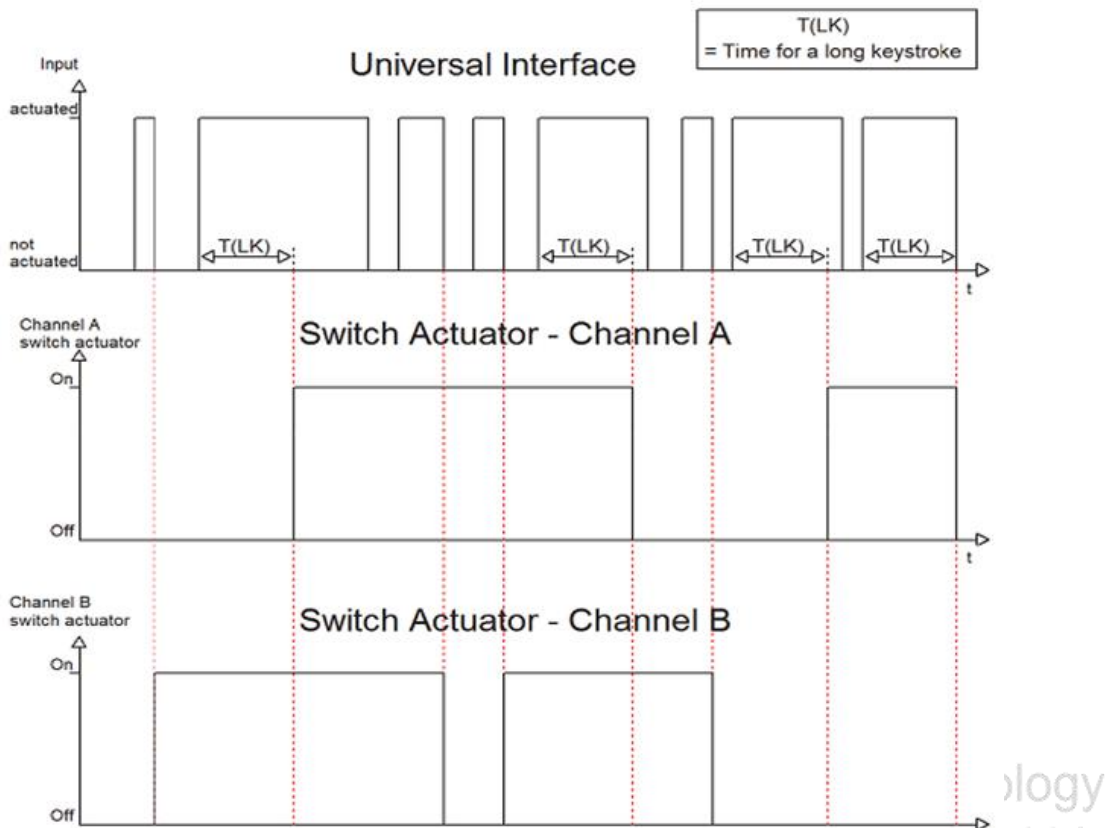
Object Description:

NO.	Name	Length	Use
80	Push-button short	1 bit	Object, working on short key
81	Value for toggle short	1 bit	Short toggle value
82	Push-button long	1 bit	Object, working on long key
83	Value for toggle long	1 bit	Long key toggle value

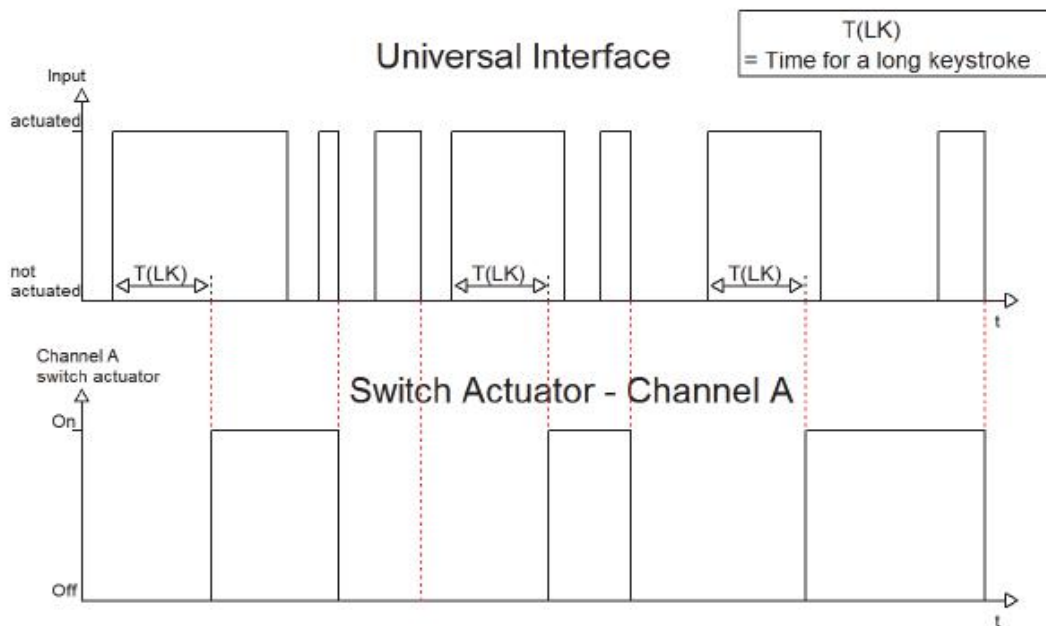
Single key length key function can be used to control two channels, this can save a button. Or it can be short press, long press, and can be short press, long press turn.

When configured to flip, the corresponding flip object must be connected to the state object of the controlled actuator channel to achieve the correct flip.

The following figure shows the command description. The long press/short press is set as the rollover function, and the long press control actuator channel A, short press control channel B:



The following figure is used for long press/short press, long press open, short press off:



The following table shows the parameter description for selecting function Send value:

Parameter Name	Range [Default]	Remark
Value for keystroke short/long	Send value	The sub-function is selected as the send value.
Send value	<ul style="list-style-type: none"> ● 1 Byte-Value[0...255] ● Scene number 	Value selection: one byte unsigned value, one for the scenario value.
1 Byte-Value[0...255]	0-255 [0]	A byte unsigned value, ranging from 0 to 255. Can be used for absolute dimming control.
Scene number	1-64 [1]	A byte unsigned value, ranging from 1 to 64. Can be used for scene control.

3.4.13.5 One Button Dimming

Single key can realize dimming, opening/closing.



Parameter Description:

Parameter Name	Range [Default]	Remark
Blocking object	<ul style="list-style-type: none"> ● Inactive ● Active 	Blocking function

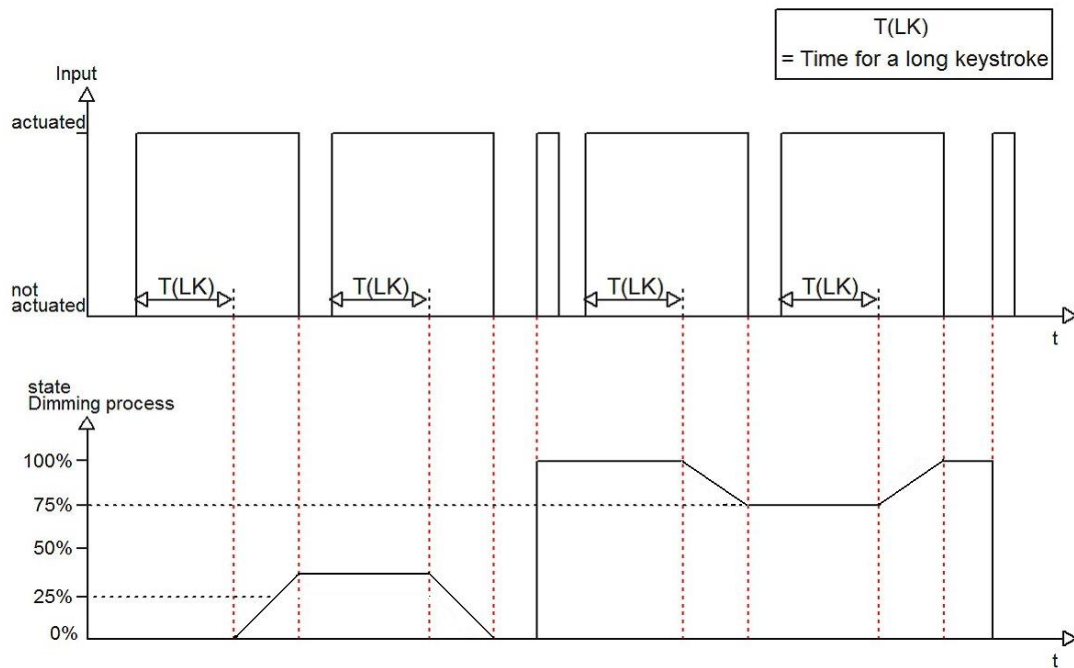
Object Description:

NO.	Name	Length	Remark
80	Dimming on/off	1 bit	With the switch function, the short button is effective, each time it is flipped.
81	Dimming	4 bit	Relative dimming, long button effective.
82	Value for toggle	1 bit	Receives the channel status value

Single bond dimmer can achieve on/off, dimming function. Short key and switch function is the

same, every button to flip. Long keys to realize relatively light, reaches the maximum/minimum brightness change, no longer release button to stop the dimming. Because it is a single bond dimmer, so every time long keys that move light change direction. Assuming that the current dimmer upwards, the direction of the next move light downward. The lithography degree 100% every time.

Dimming Description:



3.4.13.6 One Button Shutter

Single bond curtain control.

Function	One Button Shutter
Operation function	Long=move / short=stop/slats
Blocking Object	Inactive

Parameter Description:

Parameter Name	Range [Default]	Remark
Blocking object	<ul style="list-style-type: none"> ● Inactive ● Active 	Blocking function



Object Description:

NO.	Name	Length	Use
80	Shutter	1 bit	The curtain moves, the long button is valid.
81	Blinds/Stop	1 bit	The curtain stops, the short button is valid
82	Value for change of direction	1 bit	Indicating current direction.

The long button controls the curtain movement, changing direction each time, and assuming that the current is moving upward, the next time it moves down. When the short button is sent, the Stop command is sent by the object Blinds/Stop.

3.4.14 LED Output

Function	LED output
LED state at objectvalue 0/1	OFF/ON (normaly)
LED state at ON	Permanent
Behavior of LED at undefined object	OFF

Parameter Description:

Parameter Name	Range [Default]	Remark
LED state at object value 0/1	OFF/ON(normal) ON/OFF(inverted)	Indicates the way the LED responds to the value of the object
LED state at ON	Permanent blinking	Indicating light mode, always bright/flashing.
Behavior of LED at undefined object	OFF Short flash	When the LED object has no valid value, the LED state is defined.

LED Object:

NO.	Name	Length	Use
122	LED Output A	1 bit	Control LED output

The LED output function can directly drive the external LED without additional electronic components. The output voltage is 3.3v, and the integration has 1k current limiting resistance. It is



forbidden for large current LED drivers.

The LED can normally respond to the object value (1= open,0= close), or reverse display (0= open,1= close). Also, the LED lighting mode can be configured, which is always bright/flashing.

3.4.15 Logic

The device extension input contains two logical control blocks. Various input/output methods can be configured.

The screenshot displays a configuration window for a logic device. It features two logic blocks, each with the following settings:

- Behaviour at Bus power up:** Radio buttons for 'no read ext. logic objects' (selected) and 'read ext. logic objects'.
- Settings for logic 1/2:** A dropdown menu set to 'And' for logic 1 and 'Or' for logic 2.
- Objecttype 1/2:** A dropdown menu set to 'Switch' for both.
- Sending condition:** A dropdown menu set to 'not automatic' for both.
- Output inverted:** Radio buttons for 'No' (selected) and 'Yes'.

Parameter Description:

Parameter Name	Range [Default]	Remark
Behavior at bus power up	<ul style="list-style-type: none"> ● No read ext.logic objects ● Read ext.logic objects 	<p>Specifies whether the logical object value is read when the device is on power.</p> <p>When configured to read, the device reads and updates the value of the external logical object, otherwise the</p>



		default value is 0.
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Function Selection:

Setting per logic [default value]	Dynamic range [default value]	Remark
<ul style="list-style-type: none"> ● Disabled <ul style="list-style-type: none"> ● And ● Or 	<ul style="list-style-type: none"> ● Switch ● Scene ● 1 byte value 	<ul style="list-style-type: none"> ● The logical object can be configured as And/Or operation, And the optional function has three kinds of switch/scene/1 byte value.

NO	Name	Length	Use
110	Logic input 1A	1 bit	The external logical input object is valid when activated
111	Logic input 1B	1 bit	The external logical input object is valid when activated.
112	Logic output 1	1 bit	Logic output object, activate switch function effectively.
112	Logic output 1 Scene	1 byte	The logical output object, which activates the scene or 1 byte value is valid.

A total of two sets of logical objects, the other group of objects from 113 to 115, functionally equivalent.

When a logical block is activated, there will be a new parameter configuration dialog. More parameters to choose from. Two external logic object can choose whether to activate, activation of corresponding objects can be configured after group address. In addition, all channel equipment can choose whether to join the logical operation.

The following figure shows the input options, including two external logical objects, four channels:

Logical object 1 A (external)	disabled ▼
Logical object 1 B (external)	disabled ▼
Input A	disabled ▼
Input B	disabled ▼
Input C	disabled ▼
Input D	disabled ▼

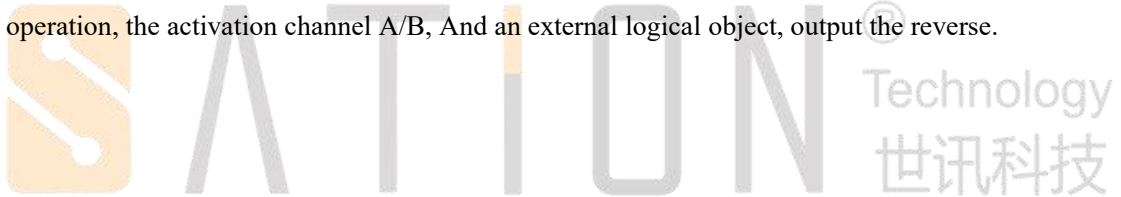
3.4.15.1 Logic Object Type Switch

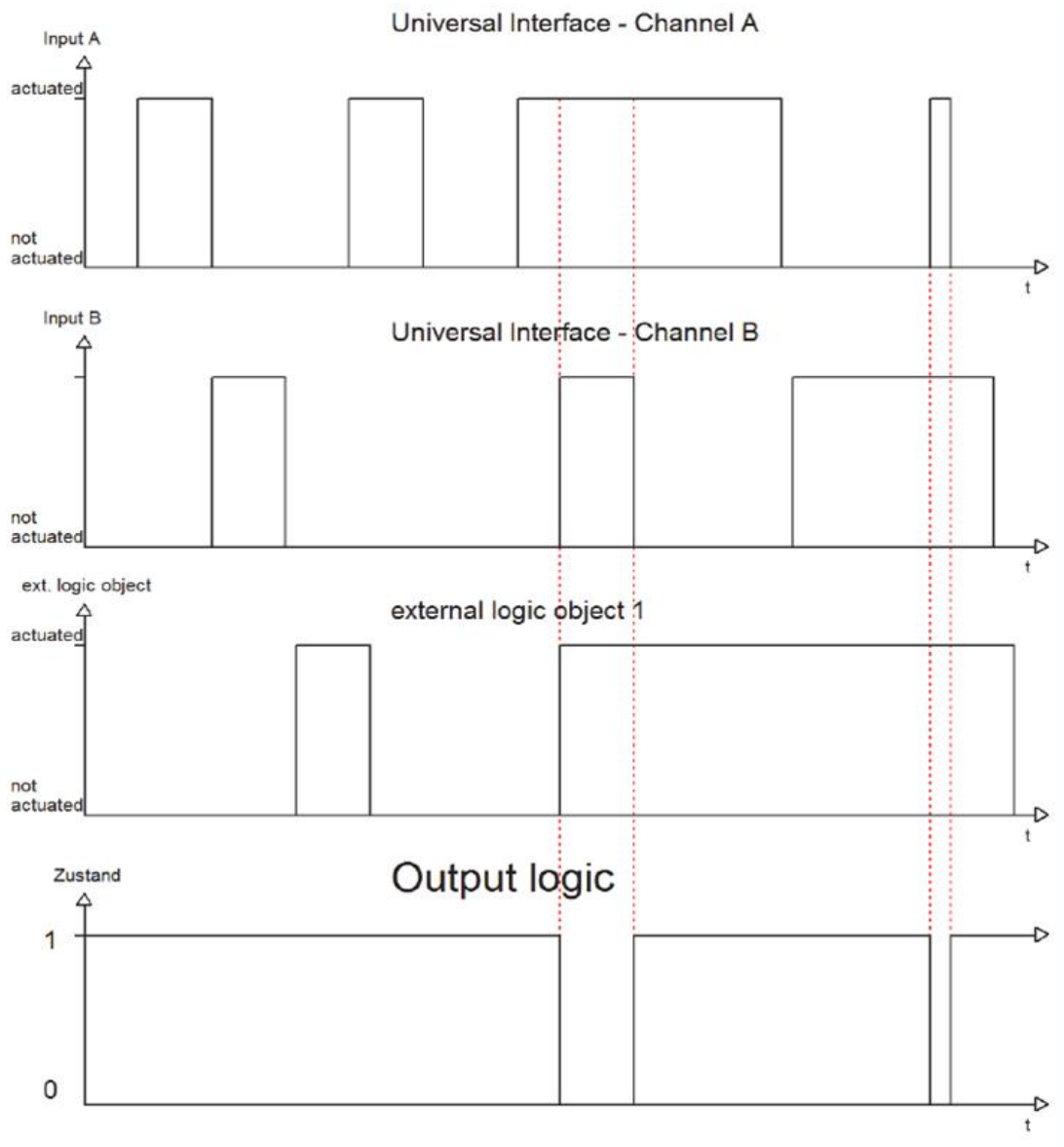
Parameter Name	Range [Default]	Remark
Send condition	<ul style="list-style-type: none"> ● Not automatic ● Change of input ● Change of output 	Set output condition
Output inverted	<ul style="list-style-type: none"> ● No ● Yes 	Set the output in reverse

For sending condition change of input, when any activation state is changed, it is output state. For sending condition change of input, only after all the input signal is set logical operation, and the state is not the same as before, the state is output.

As for the reverse output function, it refers to the output 1 when the logical operation result is 0, and the output 0 is 1.

The following figure shows the signal description, the logic function is configured as Switch, And operation, the activation channel A/B, And an external logical object, output the reverse.





In the figure above, only when three inputs are 1, And the result of the operation is 1, the output of the reverse is 0, And the other time output is 1.

3.4.15.2 Logic Object Type Scene

Logical block configured to function after the scene, when logical operation result is 1, will output scene value, and only when every time logic operation results from 0 to 1, will output a scene.

Parameter Name	Range	Remark
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	[Default]	
Scene number	1-64 [2]	Scene No setting.

3.4.15.3 Logic Object Type Byte Value

Parameter Name	Range [Default]	Remark
Byte value[0...255]	0-255 [0]	Sending byte.

As with the scenario function, output a set byte value as long as the result of the logical operation is 1.

4 Contact



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