

10A Series Switching Actuator

Manual -Ver2.1

MR0410

MR0810

MR1210

MR1610

MR2010

MR2410

Content

1 Overview.....	1
2 Product and Feature Overview	1
3 Detailed parameters	2
4 Dimensional and wiring diagrams.....	2
4.1 MR0410.....	2
4.2 MR0810.....	错误!未定义书签。
4.3 MR1210.....	错误!未定义书签。
4.4 MR1610.....	3
4.5 MR2010.....	3
4.6 MR2410.....	错误!未定义书签。
5 Product Operating Instructions.....	4
5.1 MR0410	4
5.2 MR0810.....	5
5.3 MR1210.....	5
5.4 MR1610.....	6
5.5 MR2010.....	7
5.6 MR2410.....	8
6 Parameter setting and communication object description.....	8
6.1 Switch function.....	8
6.1.1 Normal mode	10
6.1.2 Time mode	13
6.1.3 Cycle mode	15
6.2 Dry Contact Interface	16
6.2.1 Switch mode	17
6.2.2 Blind mode	17
6.2.3 Blind Position Mode	18
6.2.4 dimming mode	18
6.2.5 Dimming position mode	18
6.2.6 Scene mode	18
6.3 Equipment situation	19
6.4 Description of Communication Objects	19
7 Safe use and maintenance	22
8 Contact	22

1 Overview

This manual provides you with detailed technical information for 10A series switching actuator module, including installation and programming details, and explains how to use the 10A series switching actuator module based on practical examples. To facilitate installation to the distribution box, the 10A series switching actuator module is designed as a modular installation device capable of mounting on a 35mm DIN rail.

The 10A series switching actuator modules are used to control switch loads, such as lighting, etc.

The system is installed with other loads through the EIB/ KNX bus.

Set up and operate the whole system using engineering design tool software ETS.

2 Product and function overview

The maximum load current output by each 10A series switch execution module is 10A, including 4, 6, 8, 12, 16, 20, 24 smart relays, each circuit can independently control the switch of 2000W lamps, the above is only for resistive load lamps, it would be more appropriate to drive the resistive load at 80% of the power in actual use. For inductive loads and capacitive loads, especially in the case of multiple lamps connected in parallel, the load that can be carried will decrease. Although the power remains unchanged, the instantaneous impact current will increase, which will easily melt the relay contacts. Therefore, for inductive For load and capacitive load, it is generally appropriate to use 1/5 or 1/6 of the maximum current, and even some inferior LED lamp loads need to use 1/8 of the maximum current.

The 10A column switch execution module has manual control buttons, and LEDs indicate the switch status of each circuit. 4-way 10A switch execution module has 2-way dry contact input interface, 8-way/12-way/16-way/20-way/24-way 10A switch execution module has 4-way dry contact input interface, dry contact (I/O) Wiring communication distance: less than 10m.

Function description:

- (1) Independently control 4/8/12/16/20/24 circuit lights/loads;
- (2) With manual key switch;
- (3) With relay magnetic latching function;
- (4) With delay on/off function;
- (5) It has the function of timing off and cycle switch;
- (6) With on-site save and restore functions;
- (7) It has the function of status value query and reply;
- (8) It has the function of selecting the relay switch state after bus power failure and voltage recovery;
- (9) With scene combination control and scene learning functions;
- (10) With logic operation function;
- (11) It has the function of interlocking group and channel lock;

- (12) It has the function of recording the number of relay operations;
- (13) It has an I/O dry contact input interface, which can input control commands such as switches, curtains, dimming, and scenes, and can directly link fire emergency lighting;

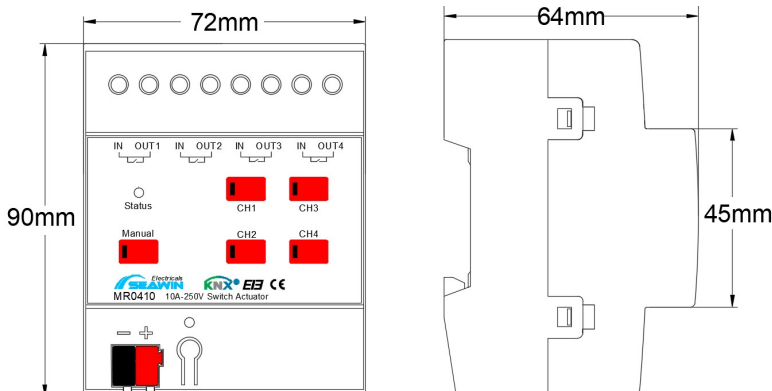
3 Detailed parameters

Operating voltage, EIB	21-30 VDC, obtained via KNX bus
Quiescent current, EIB	≤ 12mA
Charge current, EIB	≤ 20mA
Static power consumption, EIB	≤360mW
Power loss	≤ 0.6W
main output	4/8/12/16/20/24 circuit design, each circuit 250VAC (50/60Hz), Max 10A (resistive load)
Dimensions (LxWxH)	72mmx90mmx64mm (4 channels), 145mm x 90mm x 64mm (8 channels/12 channels), 218mm x 90mm x 64mm (16 channels/20 channels/24 channels)
Weight(approx.)	0.28KG (4 circuits), 0.38KG (8 circuits), 0.45KG (12 circuits), 0.58KG (16 circuits), 0.66KG (20 circuits), 0.74KG (24 circuits)
shell material	PA66
Installation method	DIN rail mounting
Operating temperature	-5°C- 45°C
Storage temperature	- 20°C- 70°C

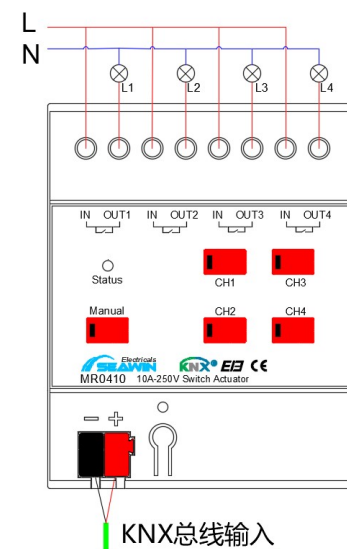
4 Dimensional drawing and wiring diagrams

4.1 MR0410

Dimensional drawing

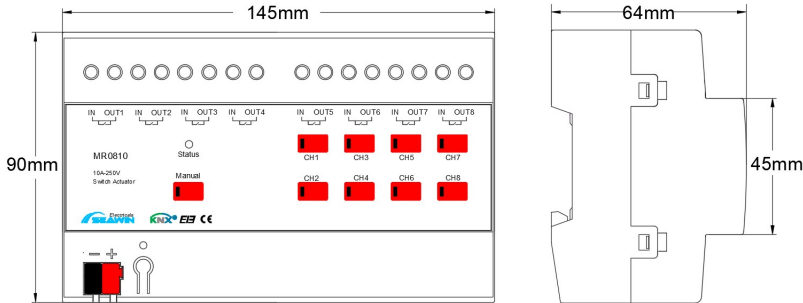


Wiring diagram

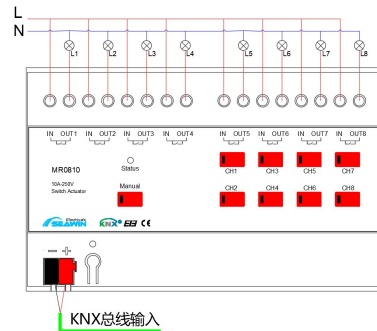


4.2 MR0810

Dimensional drawing

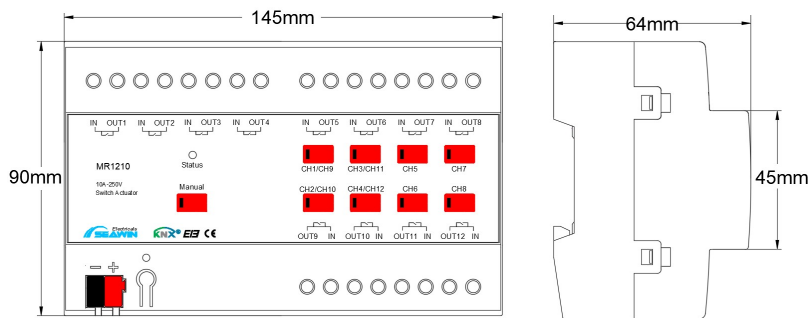


Wiring diagram

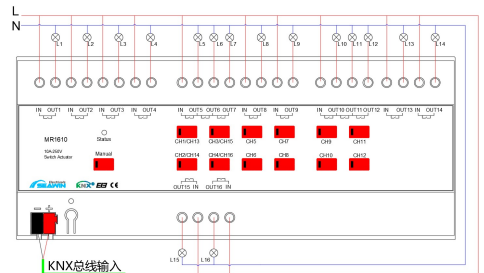


4.3 MR1210

Dimensional drawing

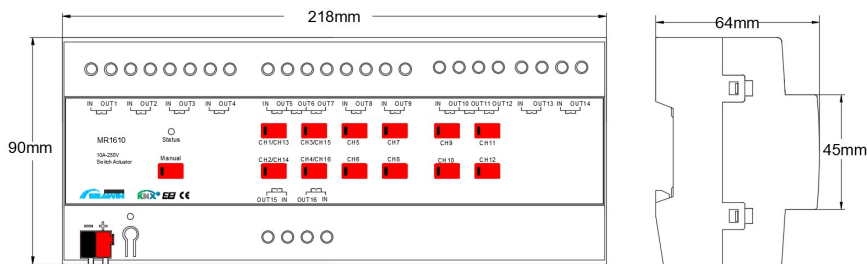


Wiring diagram

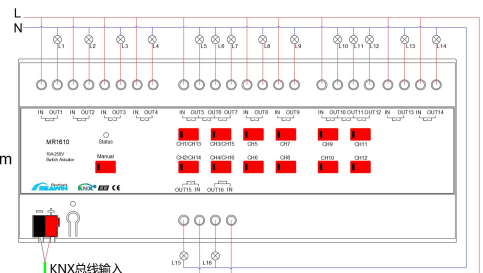


4.4 MR1610

Dimensional drawing

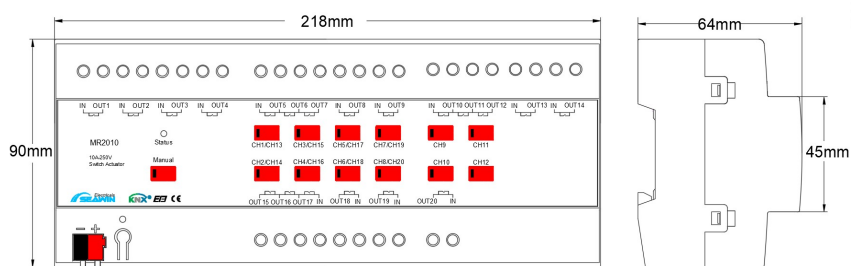


Wiring diagram

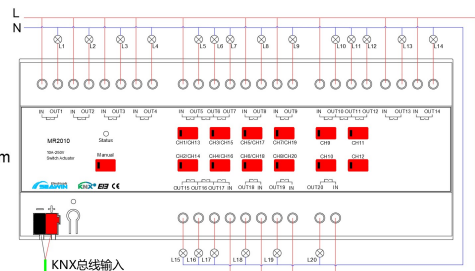


4.5 MR2010

Dimensional drawing

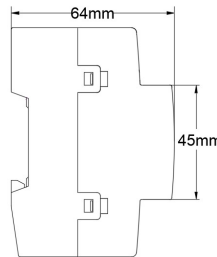
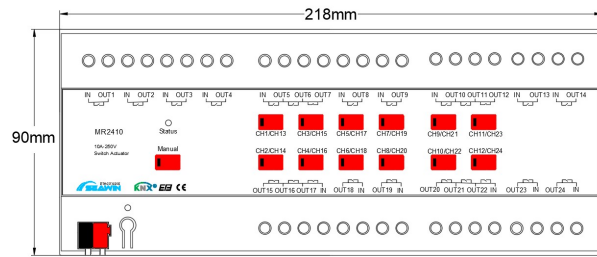


Wiring diagram

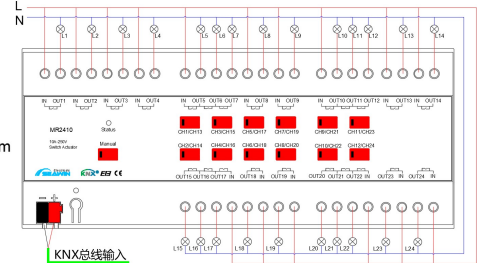


4.6 MR2410

Dimensional drawing

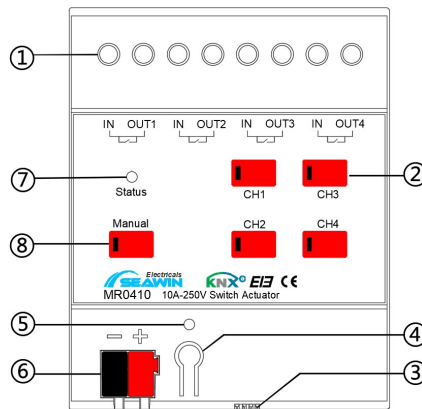


Wiring diagram



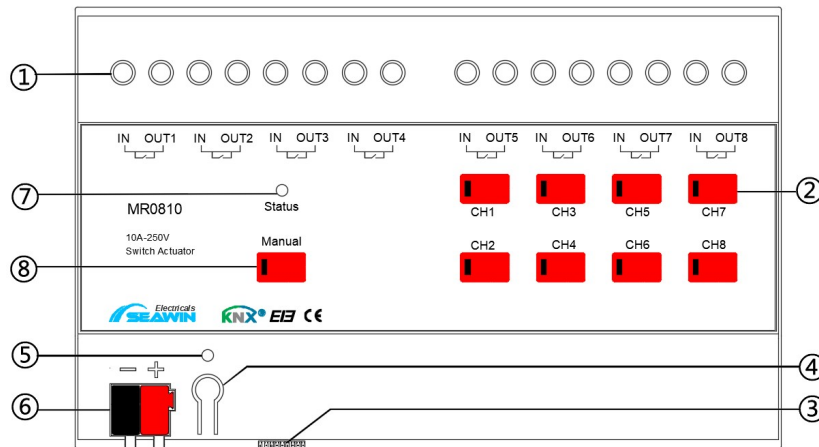
5 Product operation instruction

5.1 MR0410



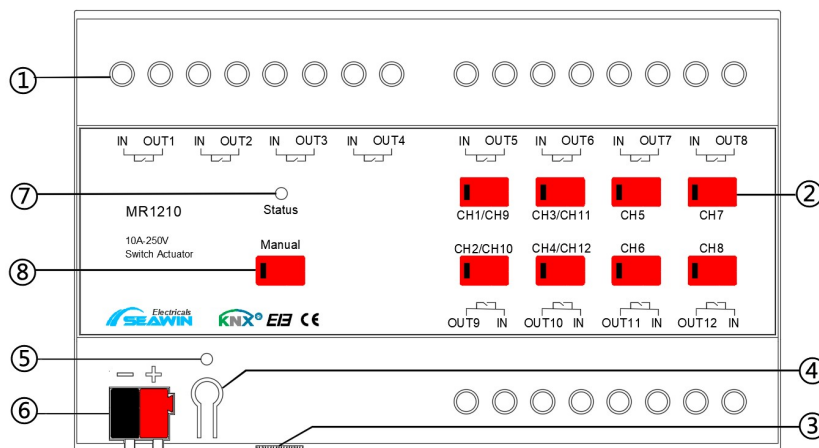
- Description: Relay output terminals: one in and one out, the aperture can be connected to $\varphi 4$ wires;
- Description: Each circuit control button, manual operation, short press the button, the circuit relay will do the reverse operation (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: Dry contact input terminals;
- Description: programming button, short press the button to enter programming mode;
- Description: Programming indicator light, when the indicator light is red, the device is in the programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal block, KNX bus connection, the red line is connected to "+", and the black line is connected to "-";
- Note: Status is the status indicator of the device power supply. When the indicator is green, the bus power supply status of the device is normal;
- Note: This button has no effect temporarily (only 4-way/8-way switch execution module);

5.2 MR0810



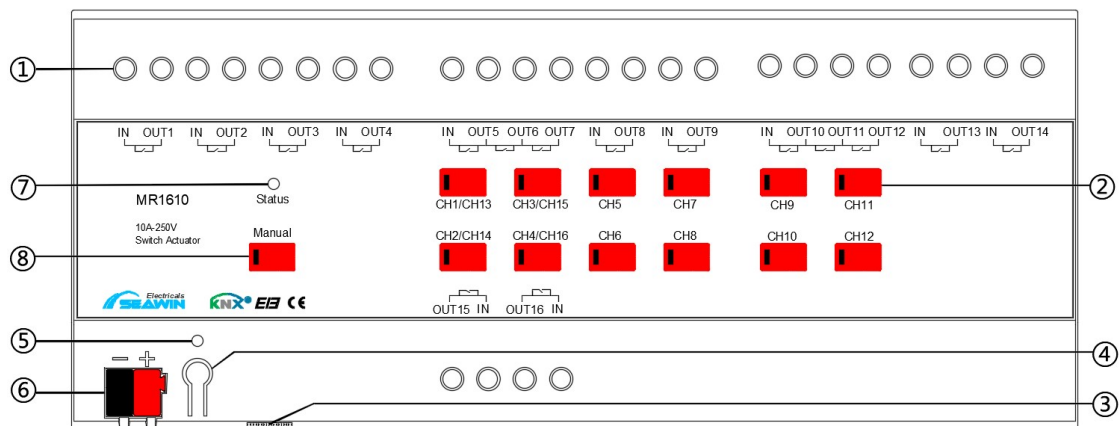
- Description: Relay output terminals: one in and one out, the aperture can be connected to $\varphi 4$ wires;
- Description: Each circuit control button, manual operation, short press the button, the circuit relay will do the reverse operation (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: Dry contact input terminals;
- Description: programming button, short press the button to enter programming mode;
- Description: Programming indicator light, when the indicator light is red, the device is in the programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal block, KNX bus connection, the red line is connected to "+", and the black line is connected to "-";
- Note: Status is the status indicator of the device power supply. When the indicator is green, the bus power supply status of the device is normal;
- Note: This button has no effect temporarily (only 4-way/8-way switch execution module);

5.3 MR1210



- Description: Relay output terminals: one in and one out, the aperture can be connected to $\varphi 4$ wires;
- Description: Each circuit control button, manual operation, short press the button, the circuit relay will do the reverse operation (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: Dry contact input terminals;
- Description: programming button, short press the button to enter programming mode;
- Description: Programming indicator light, when the indicator light is red, the device is in the programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal block, KNX bus connection, the red line is connected to "+", and the black line is connected to "-";
- Note: Status is the status indicator of the device power supply. When the indicator is green, the bus power supply status of the device is normal;
- Explanation: Manual is the switch button of the circuit, short press the button, the indicator light on the button can be switched to two states of red and green, when the indicator light on the button is red, it can control the CH1~CH8 circuit; when the button on the button When the indicator light is switched to green, it can control the CH9-CH12 circuit;

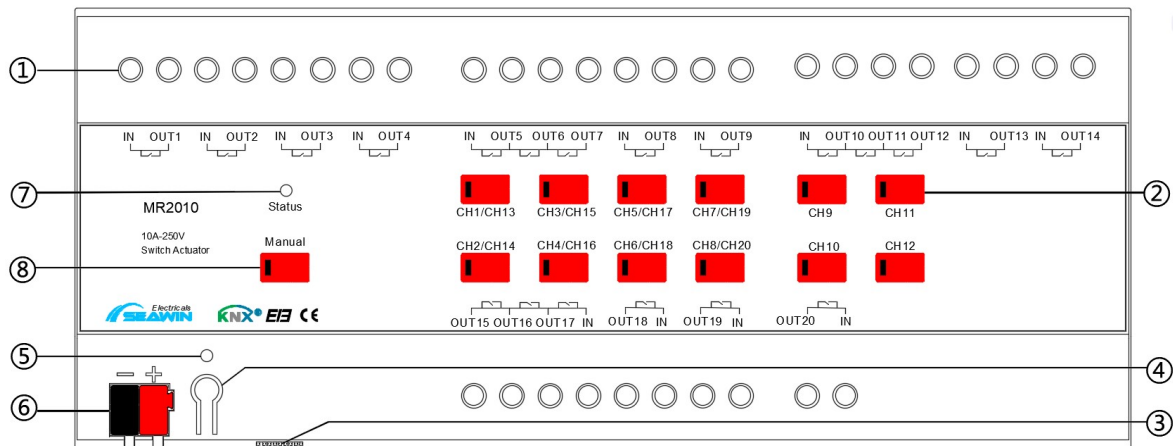
5.4 MR1610



- Description: Relay output terminals: one in and one out, the aperture can be connected to $\varphi 4$ wires;
- Description: Each circuit control button, manual operation, short press the button, the circuit relay will do the reverse operation (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: Dry contact input terminals;
- Description: programming button, short press the button to enter programming mode;
- Description: Programming indicator light, when the indicator light is red, the device is in the programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal block, KNX bus connection, the red line is connected to "+", and the black line is connected to "-";
- Note: Status is the status indicator of the device power supply. When the indicator is green, the bus power supply status of the device is normal;

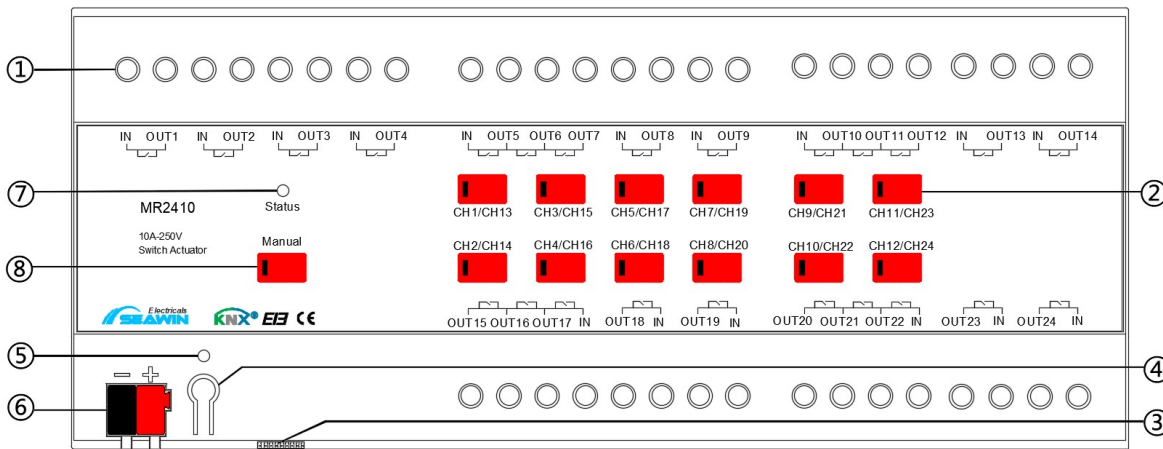
- Explanation: Manual is the circuit switch button, short press the button, the indicator light on the button can switch to red and green two states, when the indicator light on the button is red, it can control the CH1~CH12 circuit; when the button on the button When the indicator light is switched to green, it can control the CH13-CH16 circuit;

5.5 MR2010



- Description: Relay output terminals: adopt one-in-one-out method, and the aperture can be connected to $\phi 4$ wires;
- Description: Each circuit control button, manual operation, short press the button to reverse the circuit relay (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: dry contact input terminal;
- Description: Programming button, short press the button to enter programming mode;
- Description: programming indicator light, when the indicator light is red, the device is in programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal, KNX bus access, the red wire is connected to "+", the black wire is connected to "-";
- Description: Status is the device power status indicator, when the indicator is green, the device bus power supply status is normal;
- Description: Manual is the circuit switching button, short press the button, the indicator light on the button can be switched to two states of red and green, when the indicator light on the button is red, it can control the CH1~CH12 circuit; When the indicator light is switched to green, it can control the CH13-CH20 circuit;

5.6 MR2410



- Description: Relay output terminals: one in and one out, the aperture can be connected to $\varnothing 4$ wires;
- Description: Each circuit control button, manual operation, short press the button, the circuit relay will do the reverse operation (when the relay is closed, the indicator light on the button is on, and the indicator light is off when it is disconnected);
- Description: Dry contact input terminals;
- Description: programming button, short press the button to enter programming mode;
- Description: Programming indicator light, when the indicator light is red, the device is in the programming state, when the device is programmed or working normally, the indicator light is off;
- Description: KNX terminal block, KNX bus connection, the red line is connected to "+", and the black line is connected to "-";
- Note: Status is the status indicator of the device power supply. When the indicator is green, the bus power supply status of the device is normal;
- Explanation: Manual is the circuit switch button, short press the button, the indicator light on the button can switch to red and green two states, when the indicator light on the button is red, it can control the CH1~CH12 circuit; when the button on the button When the indicator light is switched to green, it can control the CH13-CH24 circuit;

6 Parameter setting and communication object description

6.1 Switch function

The following takes ETS5 as an example to set parameters in ETS5 Note: In the following introduction, Channel X or X represents the output of the corresponding channel.

- 1) Open the 10A series switch execution module parameter setting interface in ETS5, as shown in Figure 6.1.1. The parameter "Channel X" represents the output of the corresponding channel. The parameter "Field control" represents the field control function. When the "off" command is sent, the relay state of each channel is saved and turned off. When the "on" command is sent, the last saved relay state is called. (Note: The "off" command cannot be sent twice in a

row, because the current state is saved when the "off" command is sent for the first time, but the first send is saved when the "off" command is sent for the second time" off" command, overwrites the state of the scene saved for the first time).

Optional: Disabled, Enabled

If it is a 4-way switch execution module, select "Enabled" in Channel 1-Channel 4, and select "Disabled" for the other 20 items; if it is an 8-way switch execution module, select "Enabled" for Channel 1-Channel 8, and the other 16 items. Select "Disabled" ; if it is a 12-way switch execution module, select "Enabled" for Channel 1—Channel 12, and select "Disabled" for the other 12 items; if it is a 16-way switch execution module, select "Enabled" for Channel 1—Channel 16 , select "Disabled" for the other 8 items; if it is a 20-way switch execution module, select "Enabled" for Channel 1-Channel 20, and select "Disabled" for the other 4 items; if it is a 24-way switch execution module, Channel 1-Channel 24 are all selected Select "Enabled". In addition, 10A series, 4-way switch execution module with 2-way dry contact input interface, 8-way/12-way/16-way/20-way/24-way switch execution module with 4 dry contact input interfaces (here, 8-way switch execution module example)

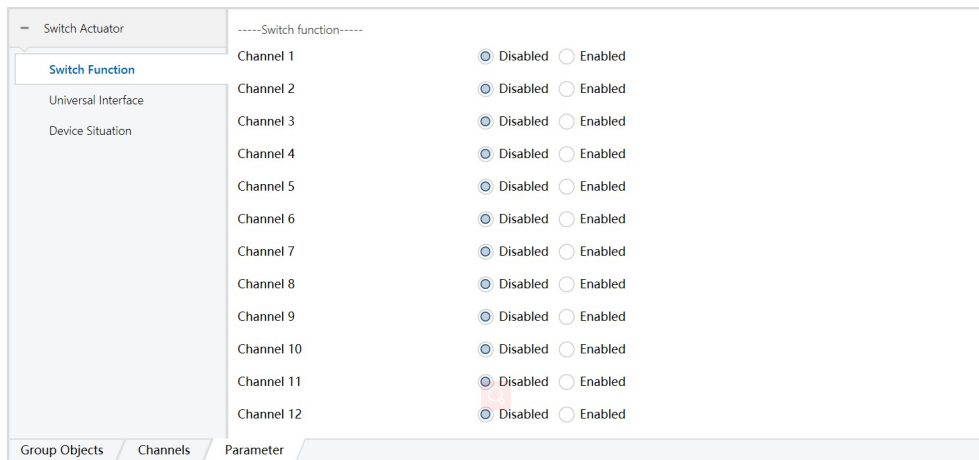


Figure 6.1.1

2) After the setting is completed, the interface is shown in Figure 6.1.2, and there are 8 options in the red box as shown in the figure

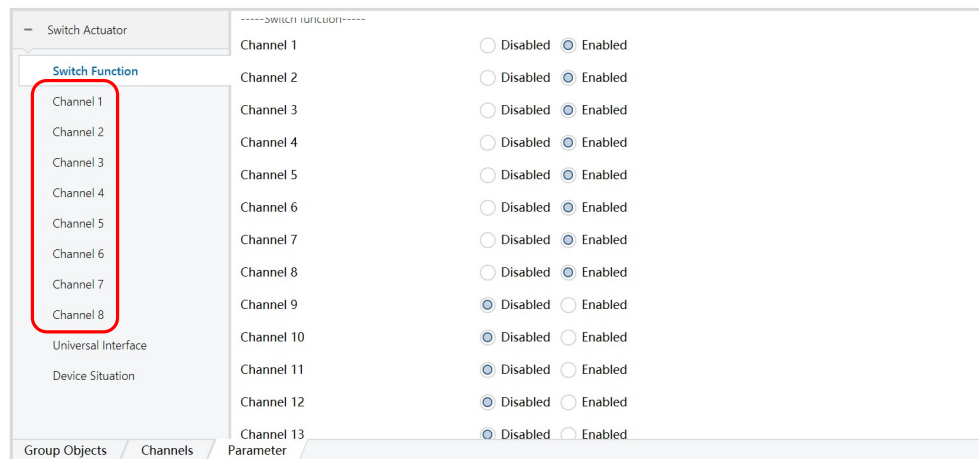


Figure 6.1.2

3) Click the options in the red box above to set the parameters of each loop respectively. Take Channel 1 as an example below, as shown in Figure 6.1.3

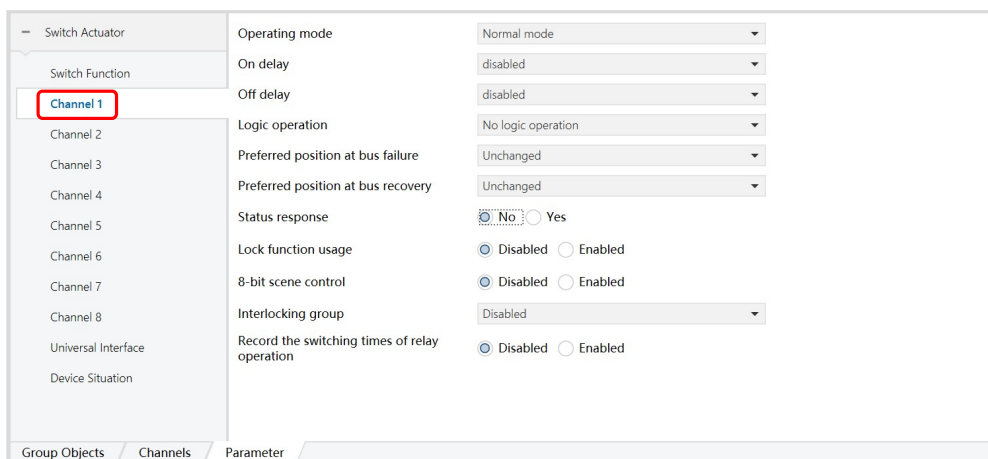


Figure 6.1.3

4) The parameter "Operating mode" is divided into three modes: Normal mode, Time mode and Cycle mode

6.1.1 Normal mode

Parameter	Description
On delay	Relay delay on (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "ON" command, the corresponding circuit will execute the relay ON after 5s.
Off delay	Relay delay off (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "OFF" command, the corresponding circuit will execute the relay OFF after 5s.
Logic operation	Logic operation function, options: No Logic operation, AND function, OR function; take

	<p>Channel 1 as an example, and the group address of "Switch, Channel 1" is 1/1/1 as an example, ① When the parameter selects "AND function", then The group address of "Logic operation, Channel 1" must be 1/1/1, which is the same as the group address of "Switch, Channel 1", so that the switch actuator can execute the command; ②When the parameter selects "OR function", "Logic operation" The group address of "operation, Channel 1" can be different from the group address of "Switch, Channel 1", that is, the group address of "Logic operation, Channel 1" can be any group address, optional "Switch, Channel 1" and "Logic operation", Channel 1" any one of the group addresses, switch the actuator to execute the command;</p>
<p>preferred position at bus failure</p>	<p>Indicates the state of the corresponding circuit of the relay after power failure, options are: on, off, unchanged;</p>
<p>preferred position at bus recovery</p>	<p>Indicates the state of the corresponding circuit of the relay after the voltage is restored, options: on, off, unchanged</p>
<p>Status response</p>	<p>Status feedback, options: No (no feedback), Yes (with feedback), when "Yes" is selected, the "Transmission of status" parameter will appear, options: using read request only (state feedback is available when a request is issued), on change in status (the status change will have status feedback immediately), always in operation (as long as there is a control command issued, there will be status feedback);</p> <p>"Invert status feedback" indicates the function of feedback inversion. The options are: No, Yes. When "Yes" is selected, the feedback is closed when the relay is turned on, and the feedback is turned on when the relay is turned off; "Real-time detection status" indicates the function of real-time status detection (None)</p>
<p>Lock function usage</p>	<p>The use of the channel lock function is to lock the on/off state of the corresponding channel relay, so that the control on the bus is invalid. The options are: Enabled, Disabled. When "Enabled" is selected, ① there is a parameter "The polarity of the lock" as Polarity of the lock, options: Lock with "1", Unlock with "0", Lock with "0", Unlock with "1"; ②The parameter "Lock start position" is the starting position of the lock, options: No reaction, Off, On; ③The parameter "Lock end position" is the end position of the lock, the options are: No reaction, Off, On;</p>

8-bit scene control	<p>Scene control function, options: Enabled, Disabled, when "Enabled" is selected, the "scene" option appears in the corresponding channel on the left side of the interface, click "scene", and the interface is switched as shown in Figure 6.1.4. In the interface ① parameter "Overwrite values stored in the device during ETS download", options are: Overwrite, Not rewrite; ②parameter "Scene assignment 1—64" indicates the setting of the scene number, and the scene number can be set to 1-64; ③parameter "Output Value" indicates the output value of the channel operation corresponding to the scene number, options: On, Off; ④Parameter "Storage value for Scene assignment X" Options: No, Yes, (for example: Channel 1 and Channel 2 are in the parameter "Scene" Assignment 1[1-64] "Select "1", "Storage value for Scene assignment 1" select "Yes", the communication object takes the group address 3/1/1 as an example, after downloading the data, first execute the module On the manual control operation CH1 and CH2 are On), enter the group address 3/1/1 in the "diagnosis" on the ETS, then select "Learn" in the "Value", select "1" for the scene number, on the bus If it is issued, the scene number "1" is completed to learn the state of the actuators CH1 and CH2 On.)</p>
Interlocking group	<p>Interlock group function, options: Disabled, group1, group2...group; for example, both Channel 1 and Channel 2 belong to group1, if Channel 1 is in the "on" state, then Channel 2 jumps to the "off" state, and vice versa, the two are interlocked.</p>
Record the switching times of relay operation	<p>Record the number of relay switching operations, options: Enabled, Disabled, when "Enabled" is selected, ① There is parameter "Overwrite the switching times during ETS download" to reset the number of operations during ETS data download, and the number of operations will be reset after the download is completed. Zero, options: No, Yes; ② parameter "Reset the switching times of relay operation", options: No, Yes; ③ parameter "Send switching times in cycle", options: Enabled, Disabled, when "Enabled" is selected, the parameter "The time in cycles" is the cycle period, options: 1S, 2S...120 minutes. ④Parameter "Send switching times on change", optional options: Enabled, Disabled, when "Enabled" is selected, the parameter "The value on change" is the number of times the relay switch can send a switching operation on the bus after it meets the number of operations. Options: 0, 1, 2...255.</p>

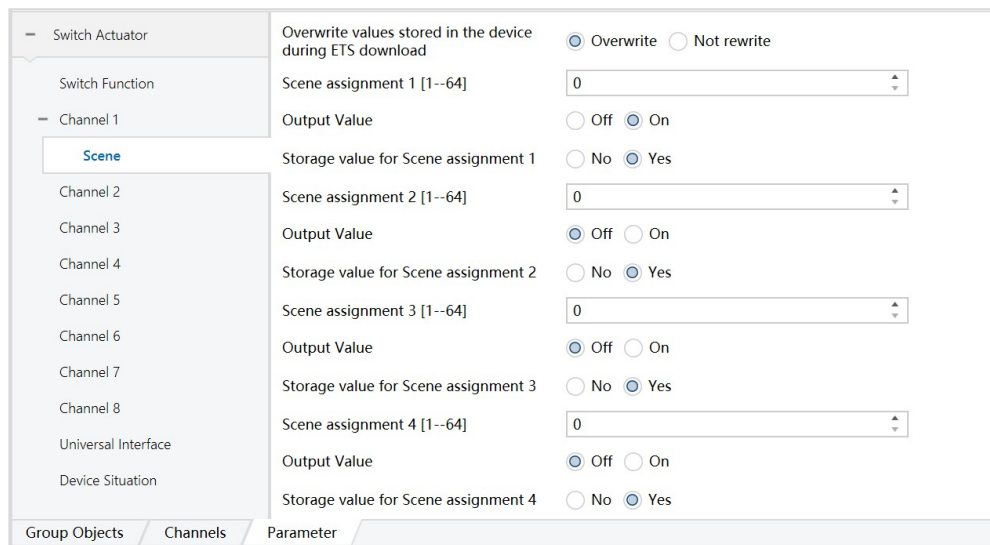


Figure 6.1.4

6.1.2 Time mode

Parameter	Description
On delay	Relay delay on (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "ON" command, the corresponding circuit will execute the relay ON after 5s.
Off delay	Relay delay off (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "OFF" command, the corresponding circuit will execute the relay OFF after 5s.
Time mode after voltage recovery	Time mode status after voltage recovery, options: on, off, as before voltage failure (Keep the status before power off)
On time	Represents the duration time of the relay on (options: 1 second, 2 seconds...120 minutes) ; Example: when "10 seconds" is selected, the relay is ON and it will automatically close after 10s;
preferred position at bus failure	Represents the state of the corresponding circuit of the relay after power failure, options: on, off, unchanged;
preferred position at bus recovery	Represents the state of the relay circuit after voltage recovery, options: on, off, unchanged;
Status response	State feedback, options: No, Yes, When "Yes" is selected, the "Transmission of status" parameter appears, options: using read request only (Status feedback only occurs when a request is made) , on change in status (State changes have immediate state feedback, always on operation (Whenever a control command is issued, there is a state feedback) ; "Invert status feedback" represents the function of feedback inversion, options: No, Yes, When "Yes" is selected, when the relay is on, the feedback off and when the relay is off, the feedback on;
Lock function usage	The channel lock function is used to lock the on/off status of the corresponding channel

	relays, so that the control on the bus is disabled. Options: Enabled, Disabled, when "Enabled" is selected, ① parameter "The polarity of the lock" can be used Options: Lock with "1", Unlock with "0", Lock with "0", Unlock with "1"; ② Parameter "Lock start position", options: No reaction, Off, On; ③ Parameter "Lock end position" " , options: No reaction, Off, On;
8-bit scene control	Scene control function, options: Enabled, Disabled, when "Enabled" is selected, the "scene" option appears in the corresponding channel on the left side of the interface, click "scene", the interface is switched as shown in Figure 6.1.4. In the interface ①parameter "Overwrite values stored in the device during ETS download", options: Overwrite, Not rewrite; ② parameter "Scene assignment 1-64; ③parameter "Output Value", options: On, Off; ④ parameter" Storage value for Scene assignment X" Options: No, Yes, (For example: Channel 1 and Channel 2 select "1" in the parameter "Scene assignment 1[1-64]" , select "Yes" for "Storage value for Scene assignment 1" " , the communication object takes the group address 3/1/1 as an example. After downloading the data, manually control CH1 and CH2 on the execution module to be On (on), and enter the group at the "diagnosis" position on the ETS. Address 3/1/1, then select "Learn" in "Value", select "1" for the scene number, and send it on the bus, then the scene number "1" is completed to learn the state of the actuators CH1 and CH2 On.)
Interlocking group	Interlock group function, options: Disabled, group1, group2...group; for example, both Channel 1 and Channel 2 belong to group1, if Channel 1 is in the "on" state, then Channel 2 jumps to the "off" state, and vice versa, the two are interlocked.
Record the switching times of relay operation	Record the number of relay switching operations, options: Enabled, Disabled, when "Enabled" is selected, ① there is parameter "Overwrite the switching times during ETS download", options: No, Yes; ② parameter "Reset the switching times of relay operation" " , options: No, Yes; ③ parameter "Send switching times in cycle" , options: Enabled, Disabled, when "Enabled" is selected, the parameter "The time in cycles" is the cycle period, options: 1s, 2s... 120 minutes. ④Parameter "Send switching times on change", optional options: Enabled, Disabled, when "Enabled" is selected, the value of the parameter "The value on change" changes, which is how many times the relay switch satisfies the operation before sending a switch operation on the bus The number of times, options: 0, 1, 2...255.

6.1.3 Cycle mode

Parameter	Description
On delay	Relay delay on (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "ON" command, the corresponding circuit will execute the relay ON after 5s.
Off delay	Relay delay off (Options: disable, 1, 2...15 seconds); Example: Select "5 seconds" and when you send the "OFF" command, the corresponding circuit will execute the relay OFF after 5s.
Cycle mode after voltage recovery	Cycle mode status after voltage recovery, options: on, off, as before voltage failure (Keep the status before power off)
On time for cycle	Represents the time the relay stays on during the cycle (options: 10seconds, 15seconds...120minutes) ;
Off time for cycle	Represents the time the relay remains off during the cycle (options: 10seconds, 15seconds...120minutes) ;
preferred position at bus failure	Represents the state of the corresponding circuit of the relay after power failure, options: on, off, unchanged ;
preferred position at bus recovery	Represents the state of the relay circuit after voltage recovery, options: on, off, unchanged ;
Status response	Status feedback, options: No), Yes, when you select "Yes", the "Transmission of status" parameter will appear, options: using read request only, on change in status, always in operation; "Invert status feedback" indicates the function of feedback inversion. The options are: No, yes, when "Yes" is selected, the feedback will be off when the relay is on, and the feedback will be on when the relay is off; "Real-time detection status" (not currently available)
Lock function usage	The use of the channel lock function, locks the on/off state of the corresponding channel relay, and invalidates the control on the bus. Options: Enabled, Disabled, when "Enabled" is selected, ① there is a parameter "The polarity of the lock", Options: Lock with "1", Unlock with "0", Lock with "0", Unlock with "1"; ②parameter "Lock start position", options: No reaction, Off, On; ③parameter "Lock end" position", options: No reaction, Off, On
8-bit scene control	Scene control function, options: Enabled, Disabled, when "Enabled" is selected, the "scene" option appears in the corresponding channel on the left side of the interface, click "scene", the interface is switched as shown in Figure 6.1.4. In the interface ①parameter "Overwrite values stored in the device during ETS download", options: Overwrite, Not rewrite; ② parameter "Scene assignment 1—64"; ③parameter "Output Value", options: On, Off; ④ parameter "Storage value for Scene assignment X", options: No, Yes, (for example: Channel 1 and Channel 2 are selected in parameter "Scene assignment 1[1-64]" "1", "Storage value for Scene assignment 1" When "Yes", the communication object takes the group address 3/1/1 as an example. After downloading the data, manually control CH1 and CH2 on the

	execution module to be On, and enter the group address at "Diagnosis" on the ETS. 3/1/1, then select "Learn" in "Value", select "1" for the scene number, and send it on the bus, then the scene number "1" is completed to learn the status of the actuators CH1 and CH2 On.)
Interlocking group	Interlock group function, options: Disabled, group1, group2...group; for example, both Channel 1 and Channel 2 belong to group1, if Channel 1 is in the "on" state, then Channel 2 jumps to the "off" state, and vice versa, the two are interlocked.
Record the switching times of relay operation	Record the number of relay switching operations, options: Enabled, Disabled, when "Enabled" is selected, ① there is parameter "Overwrite the switching times during ETS download", options: No, Yes; ② parameter "Reset the switching times of relay operation" " ", options: No, Yes; ③parameter "Send switching times in cycle" , options: Enabled, Disabled, when "Enabled" is selected, the parameter "The time in cycles" is the cycle period, options: 1s, 2s... ...120 minutes. ④Options of parameter "Send switching times on change": Enabled, Disabled, when "Enabled" is selected, the value of the parameter "The value on change" changes, which is the number of times the relay switch can send a switch operation on the bus. Times, options: 0, 1, 2...255.

6.2 Setting of dry contact interface parameters

1) Click "Universal Interface" as shown in Figure 6.2.1, and set Universal Interface A-D to Enabled, which will enable four dry contact interfaces.

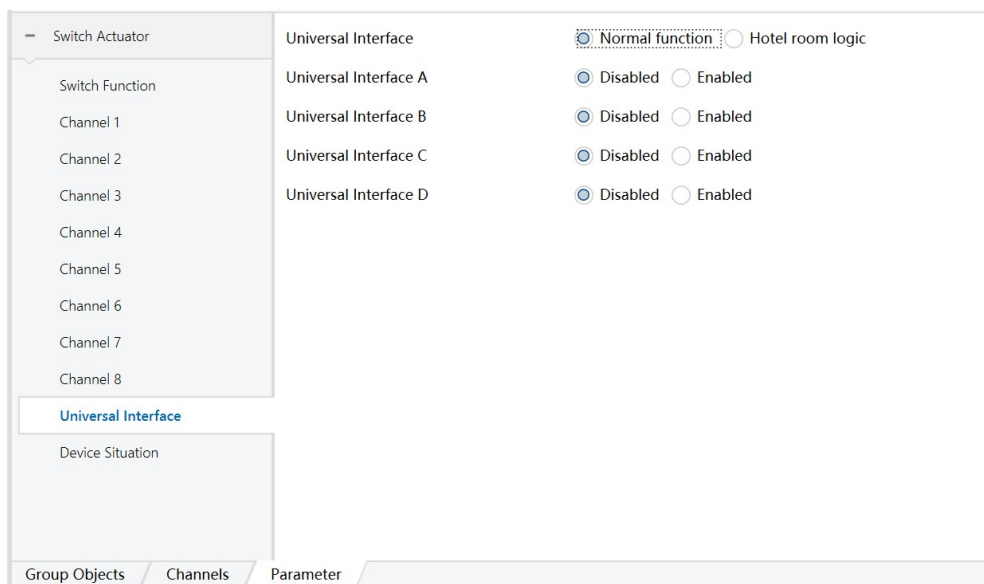


Figure 6.2.1

2) After the setting is completed, four dry contact interfaces, Interface A-D, will appear on the right. Click each dry contact interface to set its parameters. Take Universal Interface A as an example below, as shown in Figure 6.2.2.

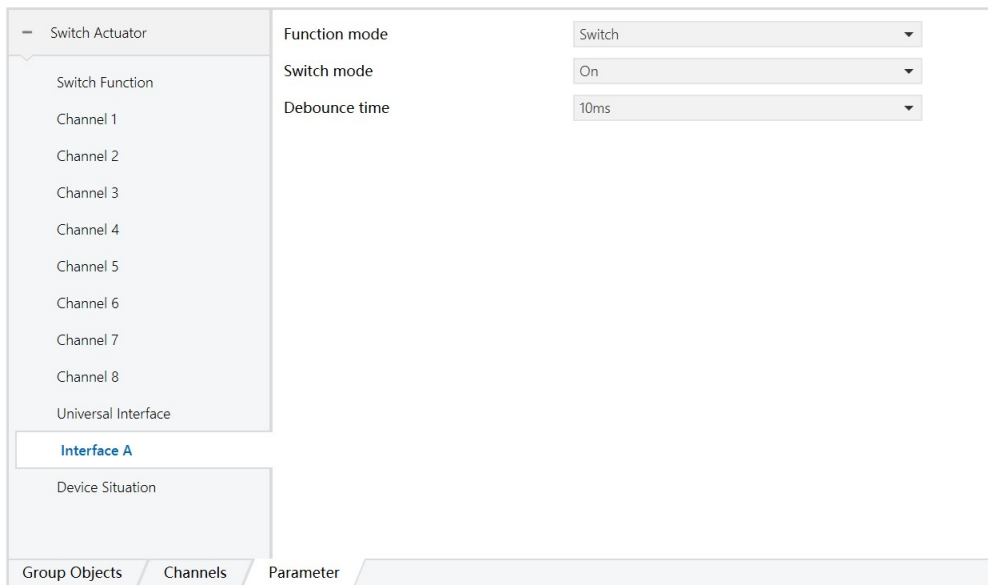


Figure 6.2.2

3) Parameter "function mode" is divided into 6 modes: Switch, Blind, Blind Position, Dimming, Dimming Position, Scene

6.2.1 Switch mode

Parameter	Description
Switch mode	Represents the action of the corresponding circuit control when the dry contact is triggered, options: on, off, toggle, user define; when user define is selected, The following parameters appear: (1) Reaction on closing the contact, options: on, off, no reaction; (2) Reaction on opening the contact, options: on, off, no reaction; (3) cyclic transmission of object, options: no, if "switch" =ON (relay on) , if "switch" =OFF (relay off) , always. When if "switch" =ON、if "switch" =OFF or always are selected, parameters will appear: transmission cycle time: base and Time factor[1-255] (Here the two parameters indicate the time interval between cyclic transmissions, transmission cycle time = base value × Time factor[1-255] value) .
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.2.2 Blind mode

Parameter	Description
Blind mode	Curtain action controlled by corresponding circuit when dry contact is triggered, options: up, down, toggle;
Long operation	Long press operation, options: yes, no. When yes is selected, parameter "Long operation

	after” will be added, options: 0.5s、1s、2s.....7s; The interval of data(base:0.1s) represents the interval at which each piece of data is sent during a long press, can be filled in: 1, 2, 3 ... 255;
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.2.3 Blind Position mode

Parameter	Description
Blind value (Range:0-255)0-100%	Represents the percentage of the position of the corresponding circuit control curtain when the dry contact is triggered. It can be filled in: 0-255;
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.2.4 Dimming mode

Parameter	Description
Dimming mode	Represents the dimming action controlled by the corresponding circuit when the dry contact is triggered, options: Dimming up, dimming down, toggle;
Long operation after:	Represents a corresponding action after a long press, options: 0.5s, 1s, 2s.....7s
Transmission mode for long operation	Data transmission mode when long press, options: One-time transmission, cyclic transmission.
Step dimming	Represents the amplitude of dimming, options: 100%、50%、25%、12%、6%、3%、1%
Send stop instruction when releasing	Command to stop when long press is released, options: No, Yes
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.2.5 Dimming position mode

Parameter	Description
Dimming position (Range:0-255)0-100%	It indicates the brightness percentage of the corresponding circuit control dimming when the dry contact is triggered. It can be filled in: 0-255;
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.2.6 Scene mode

Parameter	Description
Scene number	Represents the scene number called when the dry contact is triggered. It can be filled in: 1-64;
debounce time	Debounce time, options: 10ms, 20ms.....100ms

6.3 Device Situation

1) Click "Device Situation" as shown in Figure 6.3.1, when the parameters Manual status and Device status are set to Enabled, the corresponding functions will be enabled.

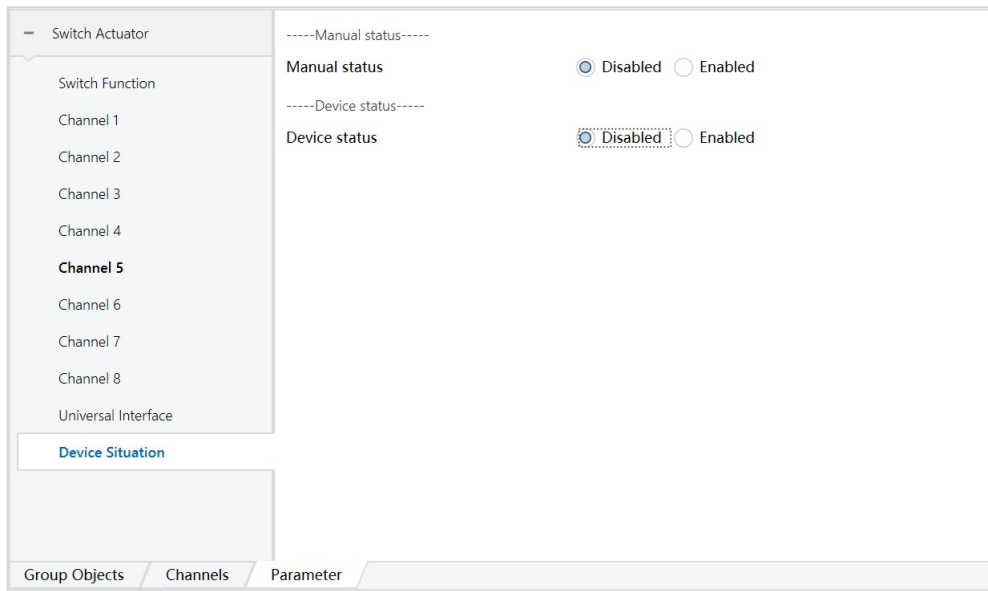


Figure 6.3.1

Parameter	Description
Manual status (not available)	Indicates manual status, options: Disabled, Enabled, when "Enabled" is selected, ① parameter "Transmission of manual status", options: using read request only, on change in status, always in operation; ②parameter "ON time during manual mode", options: unlimited, 1minutes, 2minutes...120minutes;
Device status	Indicates the device status, options: Disabled, Enabled, when "Enabled" is selected, the parameter "Transmission of device status", options: using read request only, on change in status, always in operation;

6.4 Communication object description

The communication object is the medium for the device to communicate with other devices on the bus, that is, only the communication object can perform bus communication. The role of each communication object is described in detail below (take the 8-way switching actuator as an example).

The 8-way switching actuator has a total of 90 objects, as shown in Figure 6.3.1, and the specific functions are shown in Table 1.1.

Note: in the column of table properties, "C" represents the communication function enable of the communication object, "W" represents the value of the communication object can be rewritten through the bus, "R" represents the value of the communication object can be read through the bus, "T" represents the communication object has the transmission function, and "U" represents the value of the communication object can be updated.

Nur	Name	Object Func.	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
0	Field switch	Recover/Sav...			1 bit	C	R	W	-	U	switch	Low
1	Switch, Channel 1	On/Off			1 bit	C	R	W	-	U	switch	Low
3	Lock, Channel 1	Lock/Unlock			1 bit	C	R	W	-	U	switch	Low
4	Scene, Channel 1	Recall/Progr...			1 byte	C	R	W	-	U	scene cont...	Low
5	Status, Channel 1	On/Off			1 bit	C	R	-	T	-	switch	Low
6	Switch, Channel 2	On/Off			1 bit	C	R	W	-	U	switch	Low
10	Status, Channel 2	On/Off			1 bit	C	R	-	T	-	switch	Low
11	Switch, Channel 3	On/Off			1 bit	C	R	W	-	U	switch	Low
15	Status, Channel 3	On/Off			1 bit	C	R	-	T	-	switch	Low
16	Switch, Channel 4	On/Off			1 bit	C	R	W	-	U	switch	Low
20	Status, Channel 4	On/Off			1 bit	C	R	-	T	-	switch	Low
21	Switch, Channel 5	On/Off			1 bit	C	R	W	-	U	switch	Low
25	Status, Channel 5	On/Off			1 bit	C	R	-	T	-	switch	Low
26	Switch, Channel 6	On/Off			1 bit	C	R	W	-	U	switch	Low
30	Status, Channel 6	On/Off			1 bit	C	R	-	T	-	switch	Low
31	Switch, Channel 7	On/Off			1 bit	C	R	W	-	U	switch	Low
35	Status, Channel 7	On/Off			1 bit	C	R	-	T	-	switch	Low
36	Switch, Channel 8	On/Off			1 bit	C	R	W	-	U	switch	Low
40	Status, Channel 8	On/Off			1 bit	C	R	-	T	-	switch	Low
41	Switch, Channel 9	On/Off			1 bit	C	R	W	-	U	switch	Low
45	Status, Channel 9	On/Off			1 bit	C	R	-	T	-	switch	Low
46	Switch, Channel 10	On/Off			1 bit	C	R	W	-	U	switch	Low
50	Status, Channel 10	On/Off			1 bit	C	R	-	T	-	switch	Low
51	Switch, Channel 11	On/Off			1 bit	C	R	W	-	U	switch	Low

Figure 6.3.1

Number	Name	Communication object function	Data type	Attribute
0	Field switch	Recover/Save and Off	1 bit	C, R, W, T
<p>The communication object is enabled when the parameter "Field control" selects "Enable". When the communication object receives the value "0", it will save the field state of the device and close all channels. When the communication object receives the value "1", it calls the last saved field state.</p>				
1,6,11,16,21,26,31,36	Switch, Channel X	On/Off	1 bit	C, R, W, T
<p>The communication object is enabled when "Channel X" selects "Enable". When the communication object receives the value "1", the Channel will operate "on" according to the corresponding mode. When the communication object receives the value "0", the channel will operate "off" according to the corresponding mode.</p>				
2,7,12,17,22,27,32,37	Time mode, Channel X	On/Off	1 bit	C, R, W, T
<p>The communication object is enabled when "Time mode" is selected in the Operating mode of "Channel X". When the communication object receives the value "1", turn on the time mode, at this point, control 1,6,11,16,21,26,31,36 objects. When the communication object receives the value "0", the time mode is turned off.</p>				
3,8,13,18,23,28,33,38	Cycle mode, Channel X	On/Off	1 bit	C, R, W, T
<p>The communication object is enabled when "Cycle mode" is selected in the Operating mode of "Channel X". When the communication object receives the value "1", the cycle mode is turned on, at this point, objects 1,6,11,16,21,26,31,36 are controlled. When the communication object receives the value "0", the cycle mode is turned off.</p>				
4,9,14,19,24,29,34,39	Scene, Channel X	Recall/program	1 Byte	C, R, W, T
<p>This communication object is enabled when the parameter "8-bit scene control" of "Channel X" selects "Enable", and a 1-byte instruction can be sent through this communication object to call the operation setting of the corresponding scene number.</p> <p>The parameter setting options are 1~64. In fact, the communication object Scene and Channel X receive the scene</p>				

message correspond to 0~63. For example, Scene 1 is set in the parameter setting, the communication object Scene, Channel X received Scene is 0.				
5,10,15,20,25,30,35,40	Status, Channel X	On/Off	1 bit	C, R, T
This communication object is enabled when the parameter "Status response" of "Channel X" selects "Yes". The value of this communication object can directly indicate the switching state of Channel X relay.				
121,129,137,145	Switch, Interface X	On/Off	1 bit	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Switch". When the dry contact is triggered, the channel sends corresponding ON or OFF instructions according to the corresponding mode.				
122,130,138,146	Blind, Interface X	Up/Down	1 bit	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Blind", when the dry contact is triggered, the channel sends the corresponding up or down instruction according to the corresponding mode.				
123,131,139,147	Blind, long, Interface X	Up/Down	1 bit	C, R, W, T
This communication object is enabled when "long operation" in "Blind" of "Interface X" selects "yes", when the dry contact is triggered by long press, the channel sends the corresponding up or down instruction according to the corresponding mode.				
124,132,140,148	Blind value, Interface X	8-bit value	1 Byte	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Blind position", when the dry contact is triggered, the channel sends the corresponding curtain height percentage instruction according to the corresponding mode.				
125,133,141,149	Dimming switch, Interface X	On/Off	1 bit	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Dimming", when the dry contact is triggered by a short press, the channel sends the corresponding dimming on/off instruction according to the corresponding mode.				
126,134,142,150	Dimming level, Interface X	Brighter/Darker	4 bit	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Dimming", when the dry contact is triggered by a long press, the channel sends corresponding series of relative dimming instructions according to the corresponding mode.				
127,135,143,151	Dimming value, Interface X	8-bit value	1 Byte	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Dimming position", when the dry contact is triggered, the channel sends absolute dimming instructions according to the setting percentage.				
128,136,144,152	Scene, Interface X	8-bit value	1 Byte	C, R, W, T
This communication object is enabled when "Function mode" in "Interface X" selects "Scene", when the dry contact is triggered, the channel sends corresponding scene control instructions according to the corresponding mode.				
157	Scene, Interface X	8-bit value	1 Byte	C, R, W, T
This communication object is enabled when "Enabled" is selected for "Record the switching times of relay operation" in "Channel X" and "Yes" is selected for the parameter "Reset the switching times of relay operation", this parameter is				

used to reset the relay If the communication object receives the value "00", it means that there is no action, and if it receives the value "01", it means that the number of reset relay switches is zero.				
158, 160, 162, 164, 166, 168, 170, 172	Record the switching times, Channel X	Reset	1 bit	C, R, W, T
This communication object is enabled when you select "Enabled" and select "Yes" for "Record the switching times of relay operation" in "Channel X". This parameter sends the number of relay switching operations on the bus.				
159, 161, 163, 165, 167, 169, 171, 173	Record the switching times, Channel X	Statistics	4 Byte	C, R, W, T
This communication object is enabled when you select "Enabled" and select "Yes" for "Record the switching times of relay operation" in "Channel X". This parameter sends the number of relays switching operations on the bus.				

Table 1.1

7 Safe use and maintenance

- (1) Read all instructions carefully before use.
- (2) Create a good ventilation environment.
- (3) During use, pay attention to moisture, shock and dust.
- (4) Strictly forbid to rain, contact with other liquids or corrosive gases.
- (5) If it is wet or attacked by liquid, it should be dried in time.
- (6) When the machine fails, please contact professional maintenance personnel or our company.

8 Contact

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