# HDL-M/W04.10.1
# KNX 4CH 10A Curtain Actuator
# User Manual

Version: 1.0.0

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# Content

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# Update History

The form below contains the information of every update. The latest version contains all the updates of all former versions.

| No. | Version | Update Information | Date |
|---|---|---|---|
| 1 | V1.0.0 | Initial release | Dec 26th, 2020 |
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# 1 Introduction

KNX 4CH 10A Curtain Actuator (See Figure 1) is in full compliance with Chinese and European safety standards and KNX protocol. This series of products have the characteristics of high power (10A), low consumption and high reliability.

This manual offers the information on installation steps, connection and configuration of KNX 4CH 10A Curtain Actuator on ETS5.

Figure 1. KNX 4CH 10A Curtain Actuator

## 1.1 Feature

**(1) Each channel can control the upward, downward and stop operation of the curtain, and can be controlled manually. Up to 10A output for each channel**

**(2) Control types: Blinds operation mode, curtain operation mode, manual operation, priority setup, power-on status recall, power-off status saving, forced position operation, limit position control, status response for position, operation status, scene control, safety control, and automatic control.**

## 1.2 Important Notes

**(1) Installation - Distribution box**

**(2) Programming - This device is compliant with the KNX standard and can only be programmed by ETS software.**

**(3) Output channel - Maximum current of each relay channel: 10A**

**(4) Protection - A 10A breaker or fuse should be connected to the output load channel.**

## 1.3 Product Information

Dimensions - See Figure 2 – 3

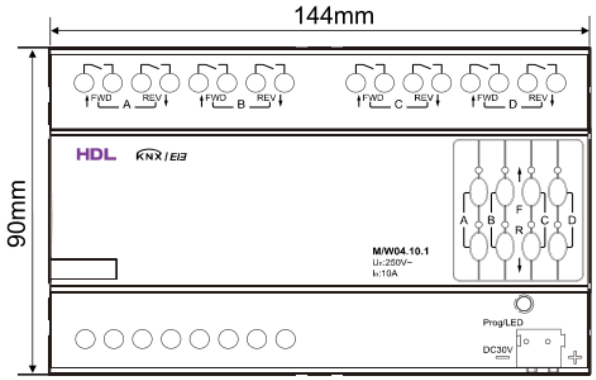



Figure 2. Dimensions - Front View

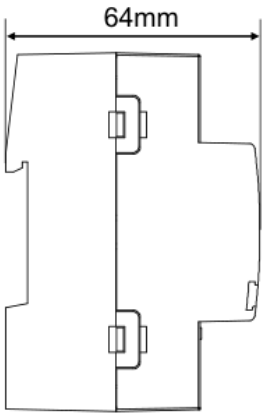



Figure 3. Dimensions - Side View

Wiring - See Figure 4

1. Manual button
2. KNX programming button/indicator: Red LED indicates programming mode.
3. KNX/EIB interface.

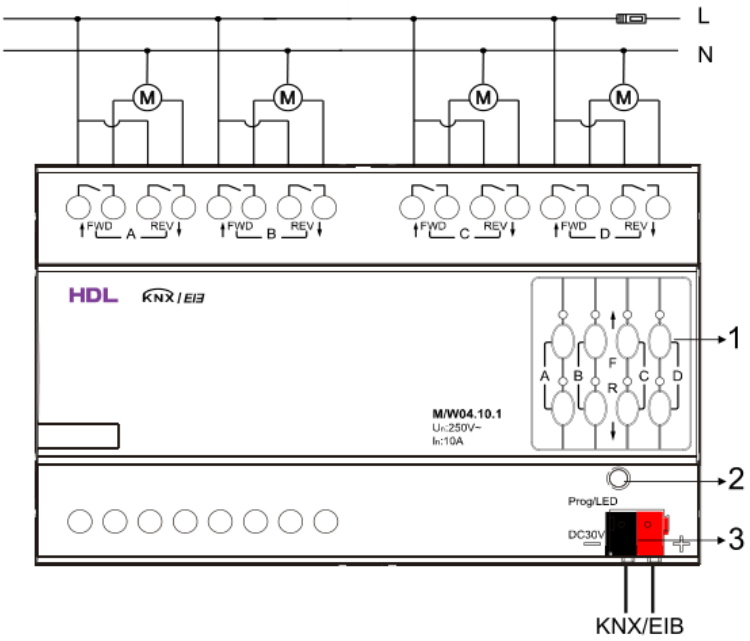



Figure 4. Wiring

Installation:

Step 1. Fix the DIN rail with screws.

Step 2. Buckle the bottom cap of the actuator on the edge of the DIN rail.

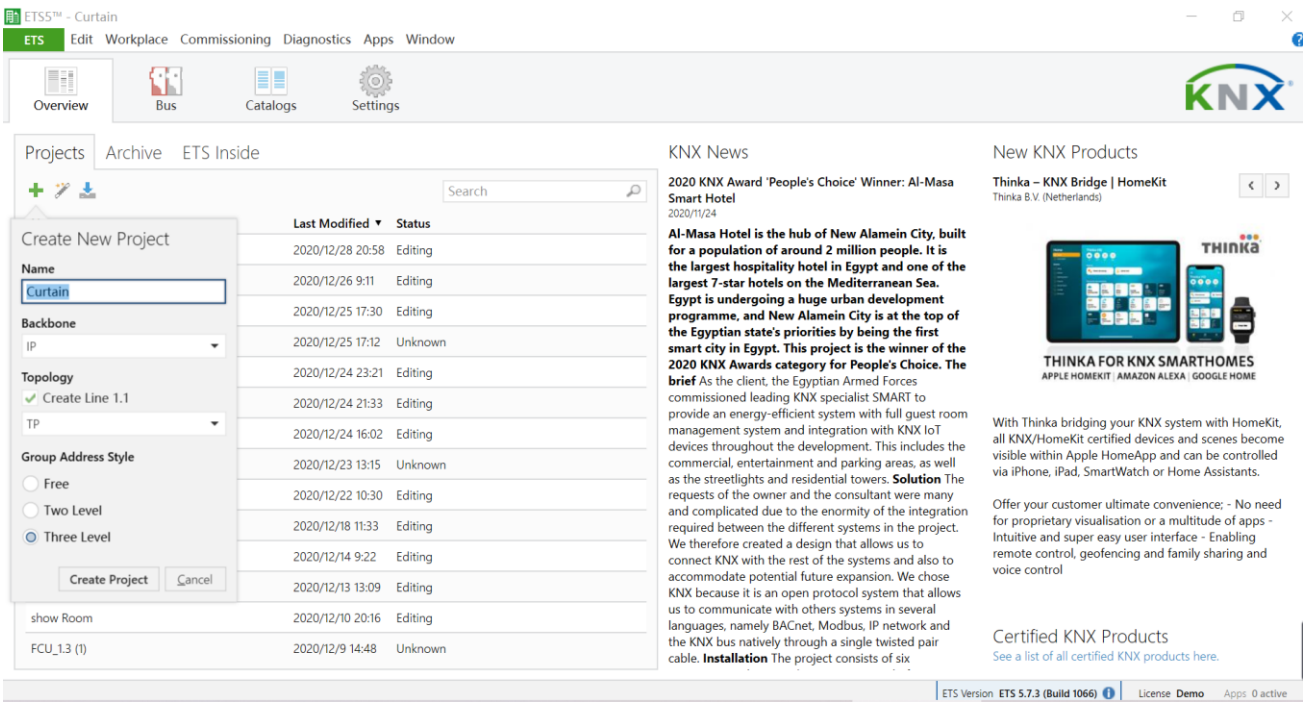
Step 3. Press the device on the DIN rail, slide it and fix it up until an appropriate position is adjusted.

# 2 Configuration on ETS5

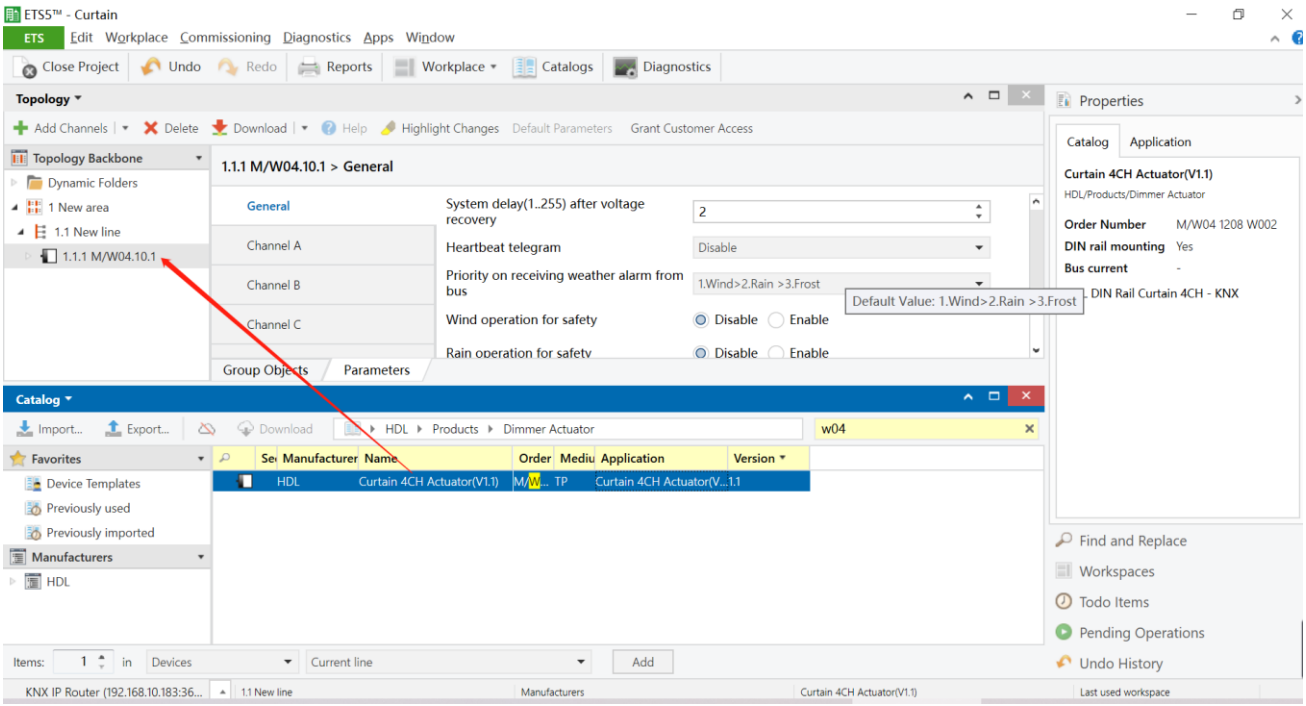
## 2.1 Import Device

Add device/database before program it.

1. Create project in ETS5, if you have project, ignore it. Select three level group address style when create project.

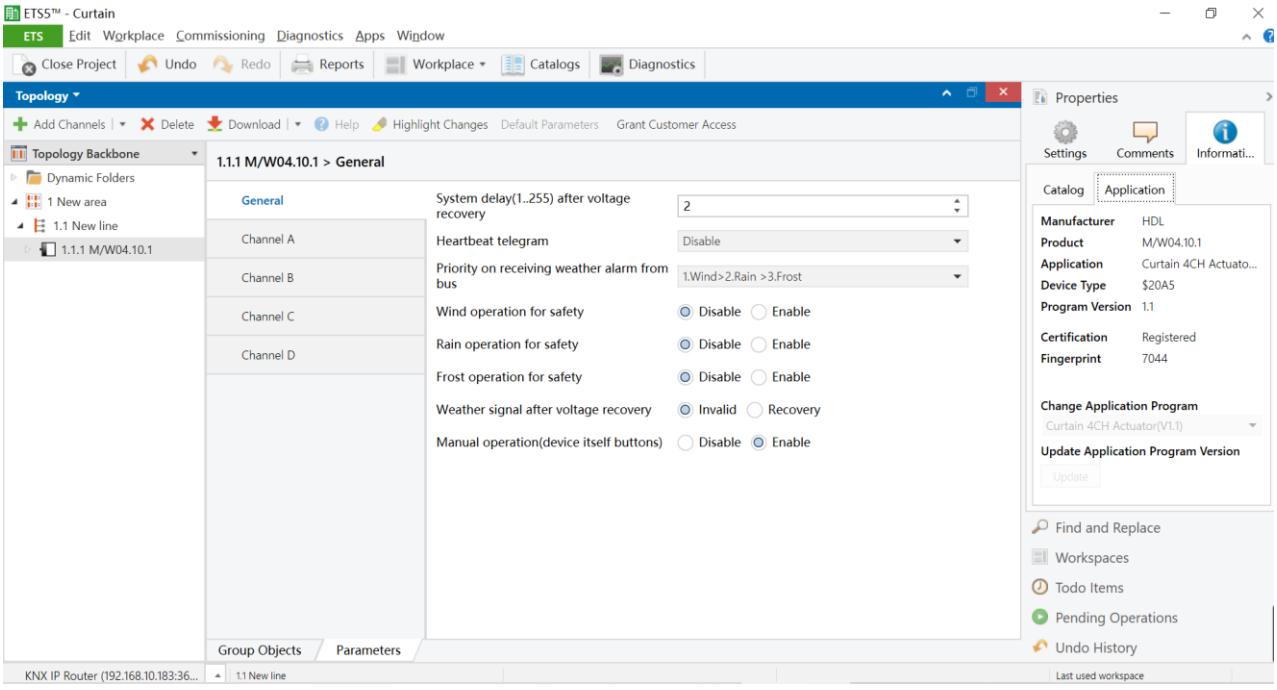



2. Refer to the device version from the label, select Catalog, drag the database to current Line. According to the label of sensor, you can ask HDL technical support for corresponding database.




## 2.2 General Setting

This document mainly describes 1.1 version M/W04.1 KNX 4CH 10A Curtain Actuator.




(1) System delay (1...255) after voltage recovery: system time-delay function, namely a delay time between powering on the device and activating the system, which ranges from 1 to 255 s. The default value is 2 s.

(2) Heartbeat telegram: It is used to check whether the communication between device and

system is normal.

- Disable: disable heartbeat telegram function.
- Send value “0” cyclically: devices will send “0” on the KNX bus at a set time interval.
- Send value “1” cyclically: devices will send “1” on the KNX bus at a set time interval.
- Send value “1/0” inverted cyclically: devices will send “0” and “1” alternately on the KNX bus at a set time interval.

(3) Priority on receiving weather alarm from bus: Priority of wind, rain and frost.

(4) Wind operation for safety: Wind detection alarm settings. If enable corresponding intensity of the wind and create and link to a group address, Bus will receive 0/1 value.

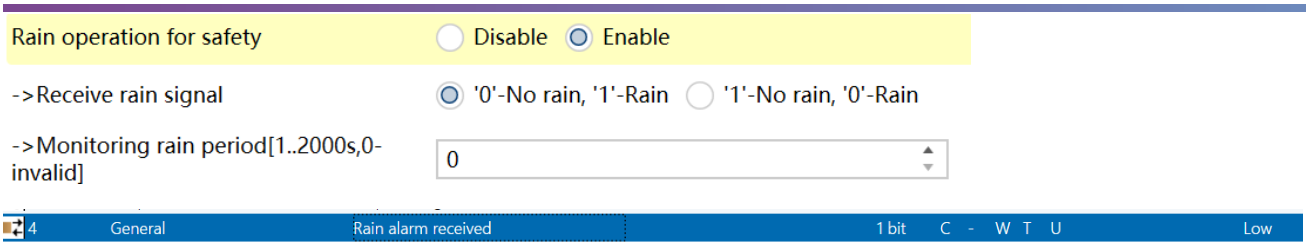
- Monitoring wind period: Interval time of monitoring the status of wind. Its range is 1 – 2000 s and 0 means invalid.

| | | | | | |
|---|---|---|---|---|---|
| 1 | General | Weak wind alarm received | 1 bit | C - W T U | Low |
| 2 | General | Slight wind alarm received | 1 bit | C - W T U | Low |
| 3 | General | Strong wind alarm received | 1 bit | C - W T U | Low |

| | |
|---|---|
| Wind operation for safety | Disable Enable |
| ->Weak wind alarm received | Disable Enable |
| --Receive weak wind signal | '0'-No weak wind, '1'-Weak wind<br>'1'-No weak wind, '0'-Weak wind |
| ->Slight wind alarm received | Disable Enable |
| --Receive slight wind signal | '0'-No slight wind, '1'-Slight wind<br>'1'-No slight wind, '0'-Slight wind |
| ->Strong wind alarm received | Disable Enable |
| --Receive strong wind signal | '0'-No strong wind, '1'-Strong wind<br>'1'-No strong wind, '0'-Strong wind |
| --Monitoring wind period[1..2000s,0-invalid] | 0 |

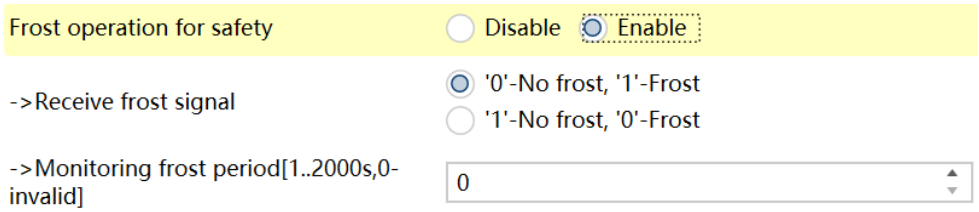
(5) Rain operation for safety: Rain detection alarm settings.

- Receive rain signal: If the rain is detected, Bus will receive 0/1 value from its group address.
- Monitoring rain period: Interval time of monitoring the status of rain. Its range is 1 – 2000 s and 0 means invalid.




(6) Frost operation for safety: Frost detection alarm settings.

- Receive Frost signal: If the frost is detected, Bus will receive 0/1 value from its group address.
- Monitoring frost period: Interval time of monitoring the status of rain. Its range is 1 – 2000 s and 0 means invalid.

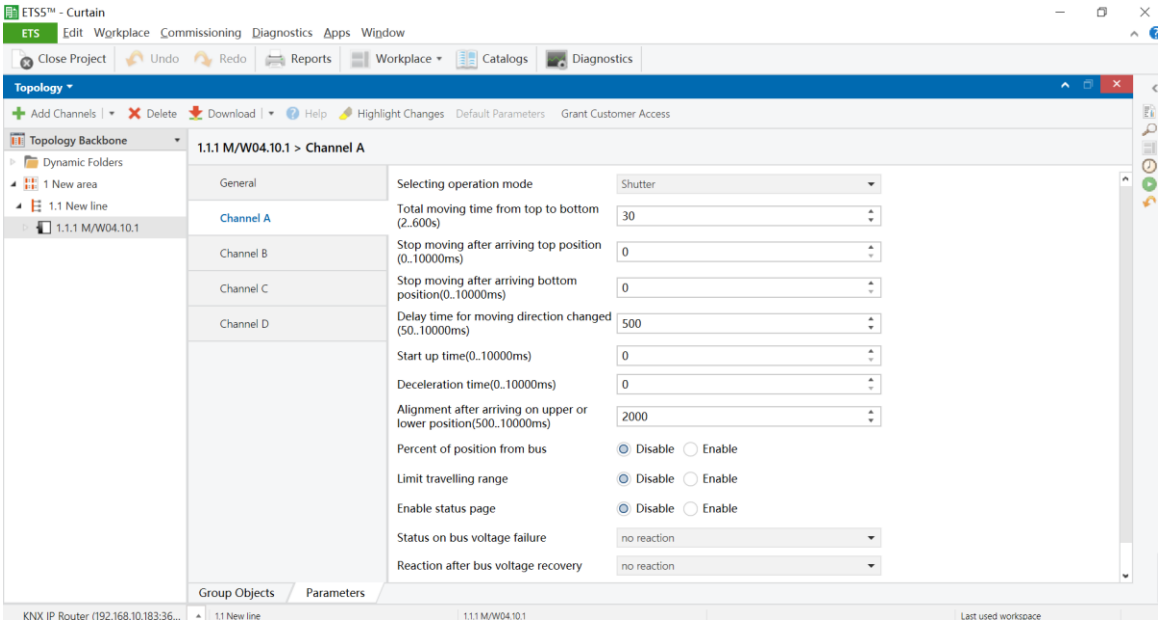



(7) Weather signal after voltage recovery: Restore the state before power failure.

(8) Manual operation (device itself buttons): Allow the key operation of the device itself.

## 2.3 Channel A/B/C/D

There are four independent channels, take Channel A as example.



(1) Select operation mode: Shutter, bind and simple control mode can be selected.

(2) Total moving time from top to bottom: The total time from top to bottom can be set to 2 ~ 600 seconds.

(3) Stop moving after arriving top position: The stop time after reaching the top can be set to 0 ~ 10000 Ms.

(4) Stop moving after arriving bottom position: The stop time after reaching the bottom can be set to 0 ~ 10000 Ms.

(5) Delay time for moving direction changed: The movement direction change delay time can be set to 50 ~ 10000 Ms.

(6) Start up time: The starting time can be set to 0 ~ 10000 Ms.

(7) Deceleration time: The deceleration time can be set to 0 ~ 10000 Ms.

(8) Alignment after arriving on upper or lower position: The time setting of alignment after reaching the high / low position can be set to 500... 10000 Ms.

(9) Percent of position from bus: Read percentage location information from the bus.

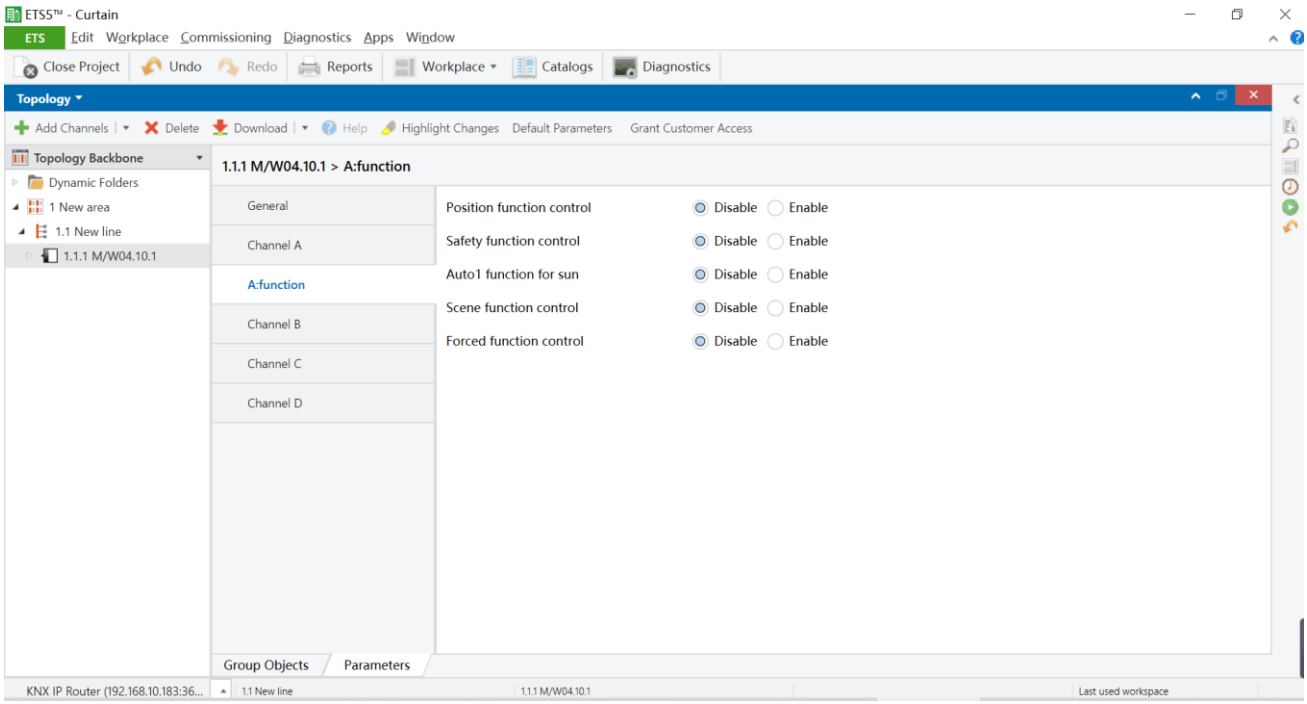
(10) Limit travelling range: Percentage setting of high / low travel range.

(11) Enable status page: The status page function can be enabled.

(12) Status on bus voltage failure: The state of voltage fault can be selected as no response, up, down and stop.

(13) Reaction after bus voltage recovery: The state of power failure recovery can be selected as no response, up, down, stop and set position.

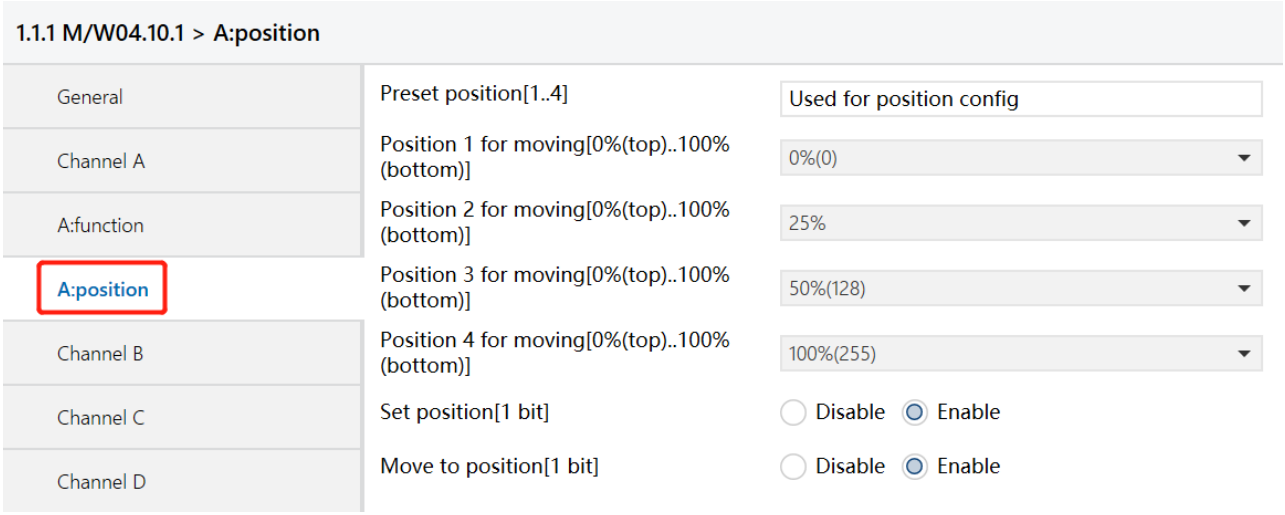
## 2.4 A/B/C/D: Function




(1) Position function control: Specify the position of the percentage.

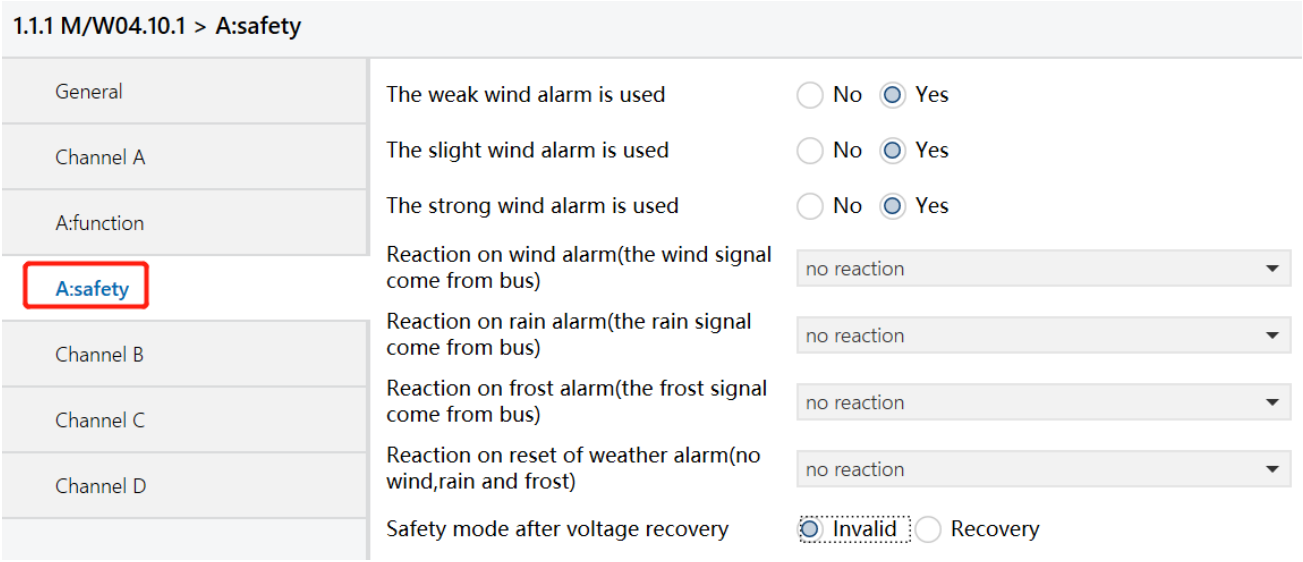
To set position 1/2, send value 0/1 to group address of Set position 1/2. To set position 3/4, send value 0/1 to group address of Set position 3/4.

To move to position 1/2, send value 0/1 to group address of Move to position 1/2. To move to position 3/4, send value 0/1 to group address of Move to position 3/4.

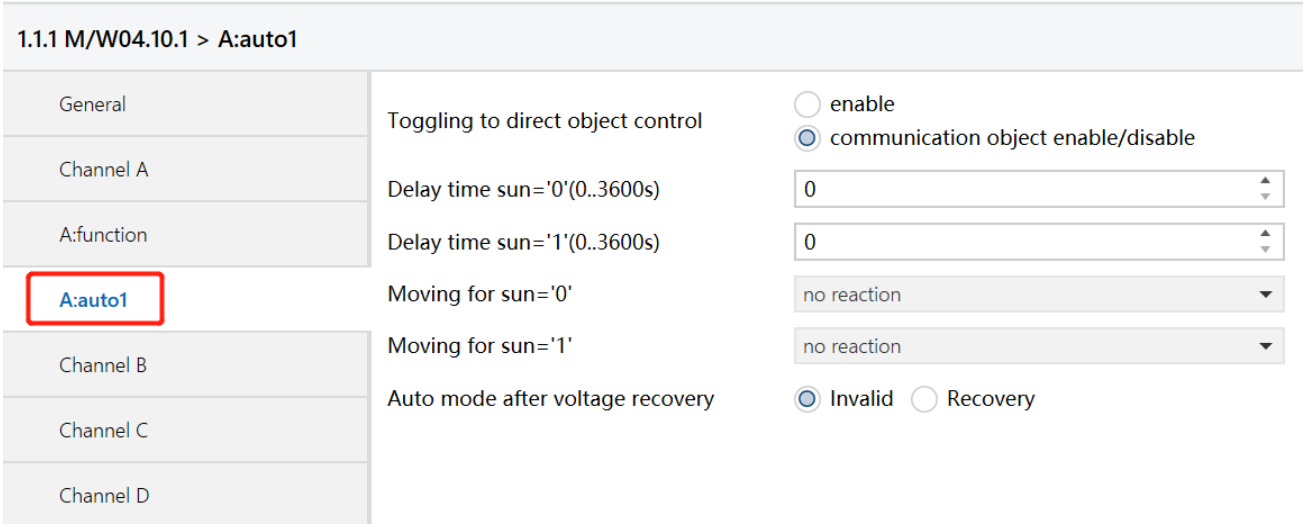



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 26 | Output A | Set position 1/2 | 1 bit | C | - | W | - | U | Low |
| 27 | Output A | Set position 3/4 | 1 bit | C | - | W | - | U | Low |
| 28 | Output A | Move to position 1/2 | 1 bit | C | - | W | - | U | Low |
| 29 | Output A | Move to position 3/4 | 1 bit | C | - | W | - | U | Low |

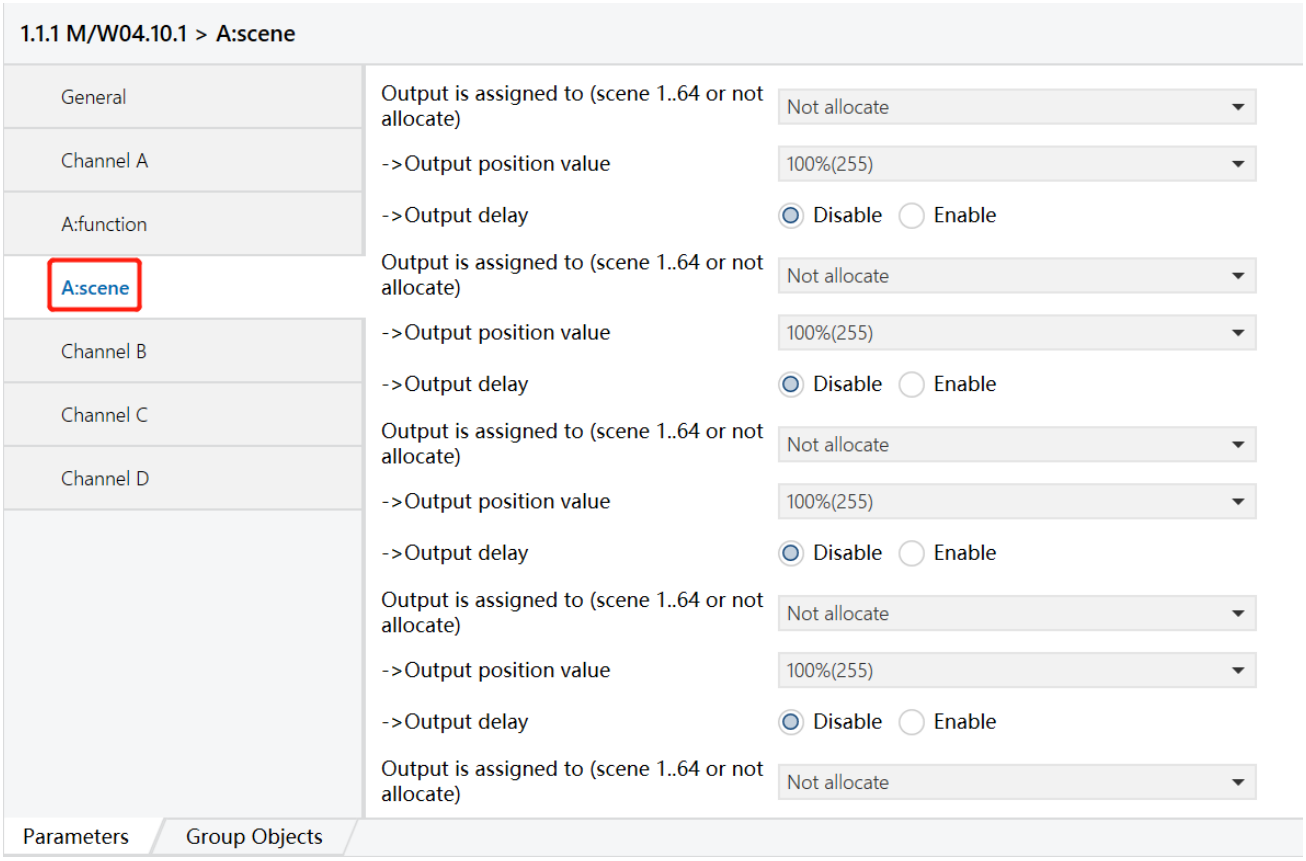
(2) Safety function control: When the weather (wind, rain and frost) alarm is triggered, curtain will be forced to move a specified position.



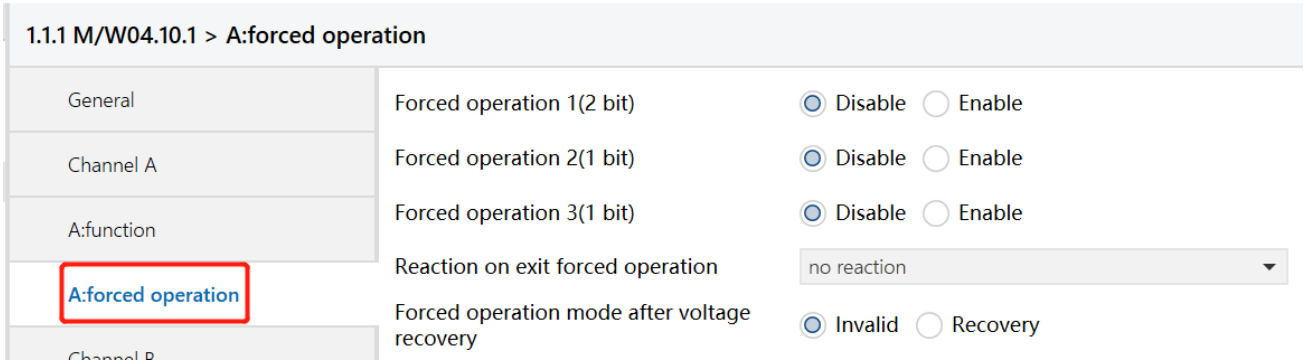

**(3) Auto 1 function for sun: Adjust the position of the curtain according to whether it is sunrise or sunset.**




(4) Scene function control: Assign scenes to control the curtain to a certain position.



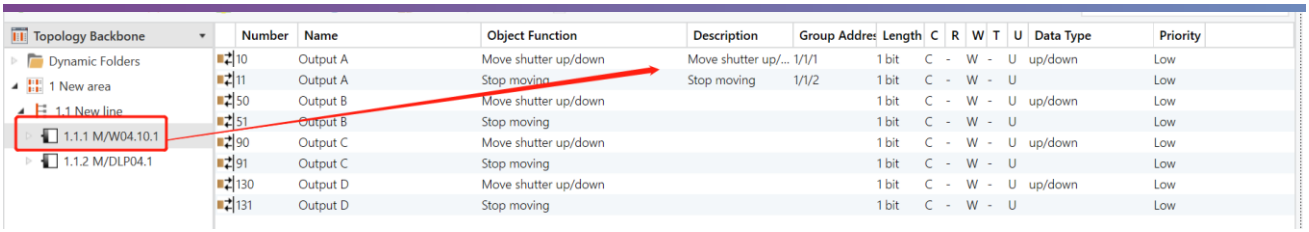

(5) Forced function control: Force the curtain to move to a certain position.

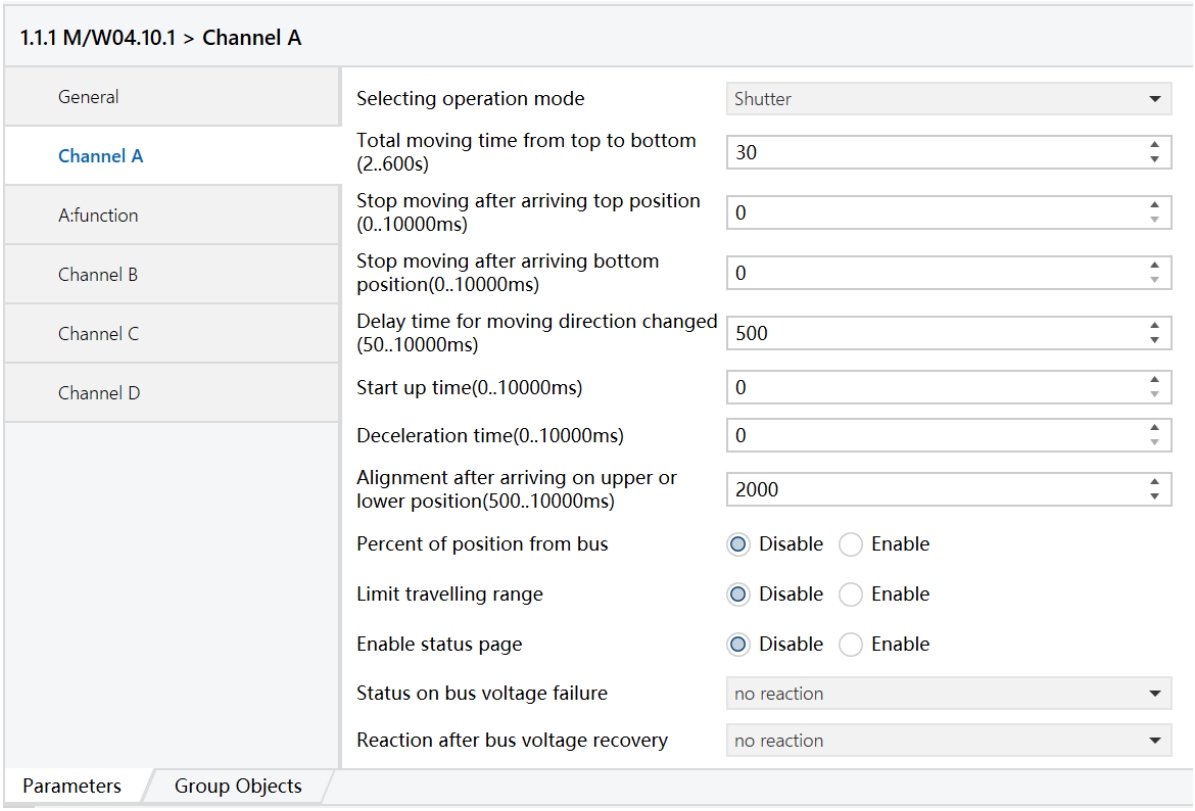



## 2.5 Example

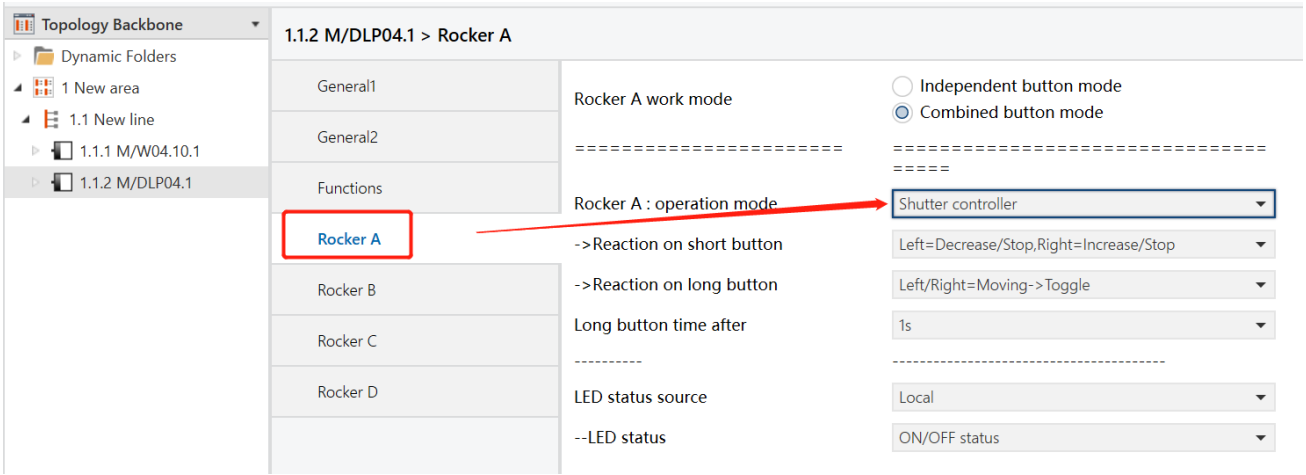
Take an example of M/DLP04.1 Rocker A controlling M/W04.10.1 Channel A.

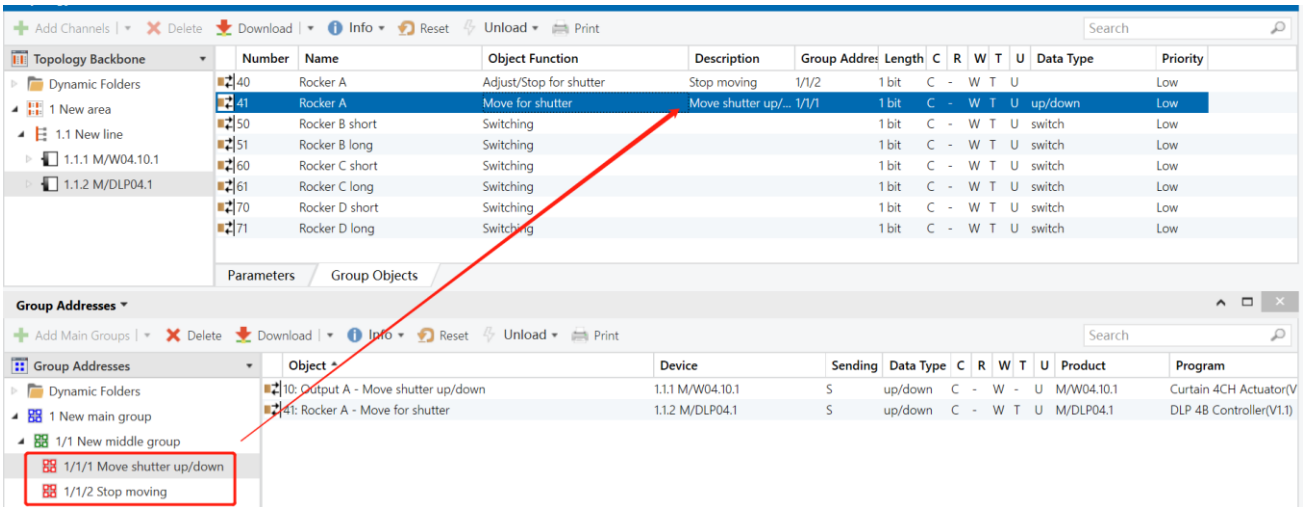
(1) In M/W04.10.1 parameter, select Shutter mode and default settings. Create and link 2 group addresses for “Move shutter up/down” and “Stop moving” of output A.




(2) In M/DLP04.1 > Rocker A, select Shutter controller mode and its default settings. Separately link 2 group addresses to “Adjust/Stop for shutter” and “Move for shutter” of Rocker A.






(3) Separately and Fully download data to M/DLP04.1 and M/W04.10.1.