

HDL[®] KNX/EIB



Shutter Blinds Actuators

Guangzhou Hedong Electronic Co.,Ltd(HDL)

HDL KNX / EIB–BUS

(Intelligent Installation Systems)

Product Manual

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1- General

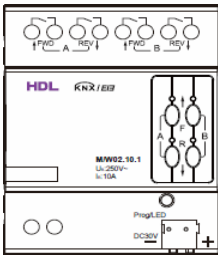
HDL KNX / EIB series Shutter/Blinds Actuators output modules are developed by HDL. Using KNX/EIB BUS communicate with other KNX devices. Database need to be downloaded to the switch actuator by using ETS2 V1.3/ETS 3.0/ETS4, The document descript how to use the products . Our products use standard according to EMC, electrical safety, environmental conditions.

The curtain Shutter/Blinds Actuators are used to control switched loads, such as:

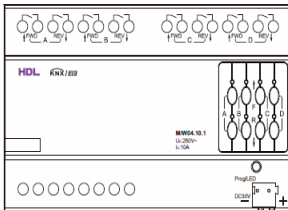
- * **Shutter**
- * **Blinds**
- * **Motor**
- * **Other Equipments**

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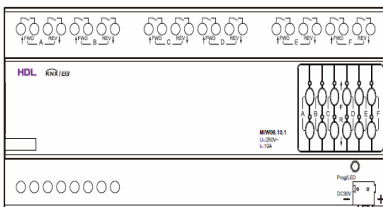
1.1 Product Function



M/W02.10.1



M/W04.10.1



M/W06.10.1

The Shutter/Blinds Actuators can switch for 2,4 and 6 channels independent AC loads.

The following functions can be set individually for each output channel:

- 1- Move up/down,
- 2- stop/louvre adjustment
- 3- Percentage of position control
 - * Position Percentag
 - * Louvre angle percentage
- 4- Limit traveling control
- 5- Status response
 - * status position
 - * status limit position
 - * status automatic
 - * status byte
- 6-Voltage failure save
- 7-voltage recovery
- 8-Position control
 - * Move into position(preset position(1-4))
 - * Set position (modification of the preset position via the EIB/KNX)
- 9-Safety control
 - * wind alarm
 - * rain alarm
 - * frost alarm
- 10-Forced operation
- 11-Auto control
 - * automatic sun protection
 - * automatic heating/cooling
- 12-Scence control
 - * scene number:1-64

The type of the Shutter/Blinds Actuators Description as following:

M/Wx.y.z

- * x=channel number
- * y=Current 10A/channel
- * z=Application Version

2- Hardware

The technical properties of HDL KNX/EIB
Shutter/Blinds Actuators as the following sections

2.1 Technical data

Power supply

- * Operating voltage (supply by the bus) 21...30 V DC,
- * Current consumption EIB / KNX (operate) < 15 mA
- * Current consumption EIB / KNX (standby) < 5 mA
- * Power consumption EIB / KNX (operate) < 450 mW
- * Power consumption EIB / KNX (standby) < 150 mW

Output nominal values

| | | | |
|--------------------------------------|------------------------|---------|---------|
| * Type of Device M/W | 02.10.1 | 04.10.1 | 06.10.1 |
| * Number of contacts | 2 | 4 | 6 |
| * In rated current | 10 A | 10A | 10A |
| * Power loss per device at max. load | 2.7 W | 5.4W | 8 W |
| * Un rated voltage | 250/440V AC (50/60 Hz) | | |

Output switching currents

- * AC operation ($\cos \varphi = 0.8$) 10A / 230 V
- * Fluorescent lighting load 10 A / 250 V (150 μ F)
- * Minimum switching capability 0.1mA/1V

DC current switching capability (ohmic load) 10A / 12 V DC

Output life expectancy

- * Mechanical Life > 1000000
- * Electrical Life (240 V/ $\cos \varphi = 0.8$) > 100000

Output switching delay without additional DC power

- * Max. delay time of relay per position changes (charge time of the capacity)
- | | | | |
|--|---------|---------|---------|
| | 02.10.1 | 04.10.1 | 06.10.1 |
| | 100ms | 100ms | 100ms |

Connections

- * EIB / KNX Bus Connection Terminal
0.8 mm \varnothing , single core
- * Load circuits S crew terminal with Slotted head
0.2...4 mm² multi- core
0.4...6 mm² single-core
- * cable shoe 12 mm
- * Tightening torque Max. 0.8 Nm

Operating and display

- * Red LED and EIB / KNX push button all in one
For assignment of the physical address
- * Contact position indication Relay lever

| | |
|--|-------------------------------|
| Temperature range | |
| * Operation | – 5 °C ~ + 45 °C |
| * Storage | – 25 °C ~ + 55 °C |
| * Transport | – 25 °C ~ + 70 °C |
| Environment conditions | |
| * humidity | max. 95 % Non-condensing |
| Appearance design | |
| * Modular | DIN-Rail Modular installation |
| * Type–M/W | 02.10.1 04.10.1 06.10.1 |
| * Dimensions (H x W x D) | 90 x W x 64 |
| * Width W (unit mm) | 72 144 216 |
| * Mounting width (1P=18 mm) | 4P 8P 12P |
| * Mounting depth (unit mm) | 64 64 64 |
| Weight (unit kg) | 0.26 0.49 0.72 |
| Installation | Use 35 mm mounting rail |
| Mounting position | Electric switch box |
| Material and Colour | Plastic, grey |
| Standard and Safety | Certificated |
| * LVD Standard | EN60669-2-1 , EN60669-1 |
| * EMC Standard | EN50090-2-2 |
| CE mark | |
| * In accordance with the EMC guideline and low voltage guideline | |
| Pollutant | Comply with RoHS |
| Note: All of loads, at 230 V AC | |
| Motors | 4HP |
| Lamps | |
| * Incandescent lamp load | 3500W |
| Low-volt halogen lamps | |
| * Inductive transformer | 1800 W |
| * Electronic transformer | 2000 W |
| * Halogen lamp | 230 V 3500 W |
| Mercury-vapour lamp | |
| * Uncompensated luminaire | 2800 W |
| * Parallel compensated | 2800 W |
| Fluorescent lamp T5 / T8 | |
| * Uncompensated luminaire | 3500 W |
| * Parallel compensated | 2000 W |
| * DUO lamp | 2000 W |
| Dulux lamp | |
| * Uncompensated luminaire | 1500 W |
| * Parallel compensated | 1500 W |
| Switching performance (contact) | |
| * Max. peak inrush-current I _p (120 μs) | 600 A |
| * Max. peak inrush-current I _p (240 μs) | 480 A |

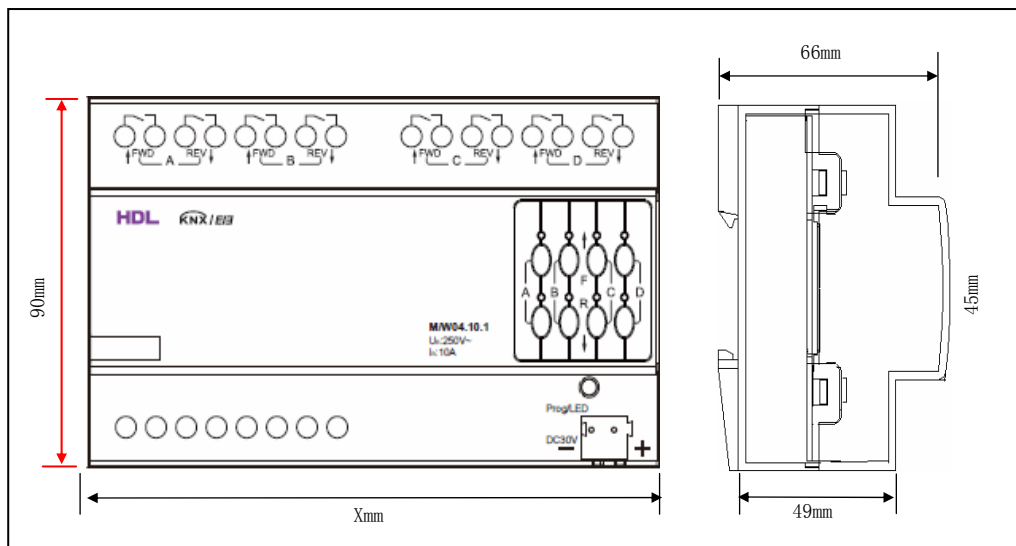
- * Max. peak inrush-current I_p (480 μs) 300 A
- * Max. peak inrush-current I_p (1000 μs) 170 A

Application table

| Type | M/W 02.10.1 | M/W 04.10.1 | M/W 06.10.1 |
|--------------------------------------|-------------|-------------|-------------|
| Max. number of communication objects | 70 | 130 | 190 |
| Max. number of group addresses | 254 | 254 | 254 |
| Max. number of associations | 254 | 254 | 254 |

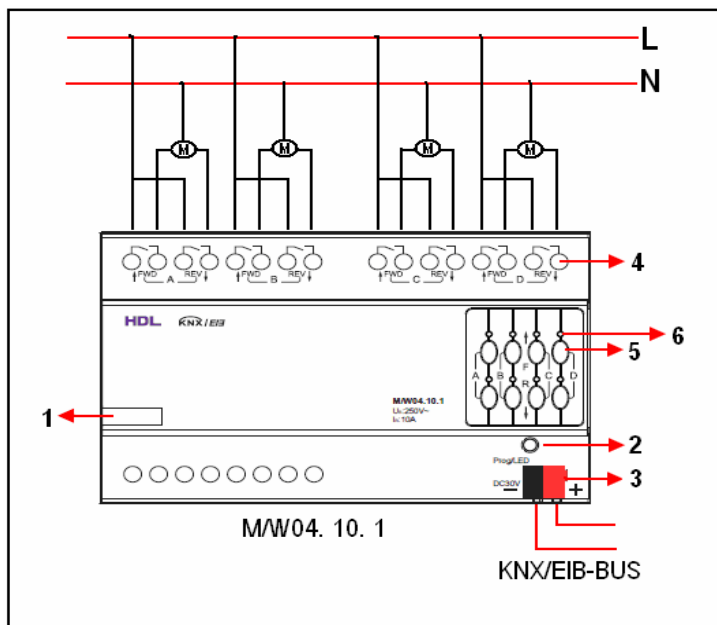
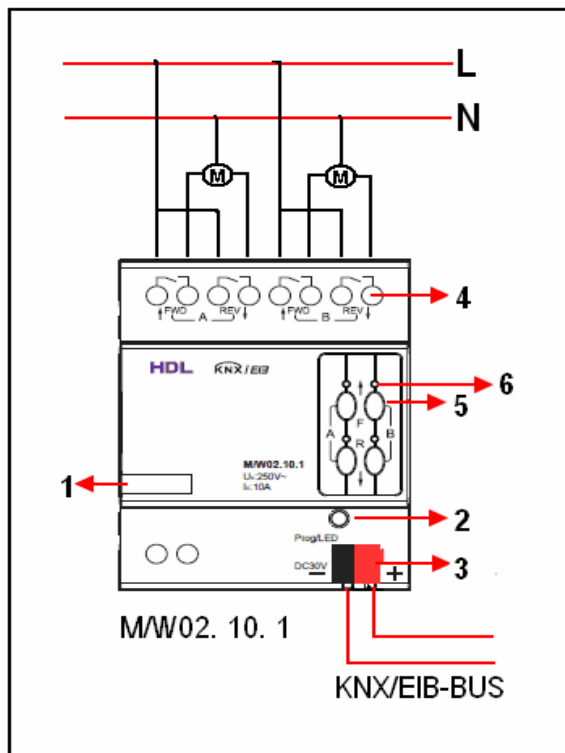
Note: The programming requires the EIB Software Tools ETS2 V1.3 or ETS3.0 or ETS4. If use ETS2 V1.3, then import "*.vd2". If use ETS3.0, then Import "*.vdx". If use ETS4, then import *.vdx or *.knxprod

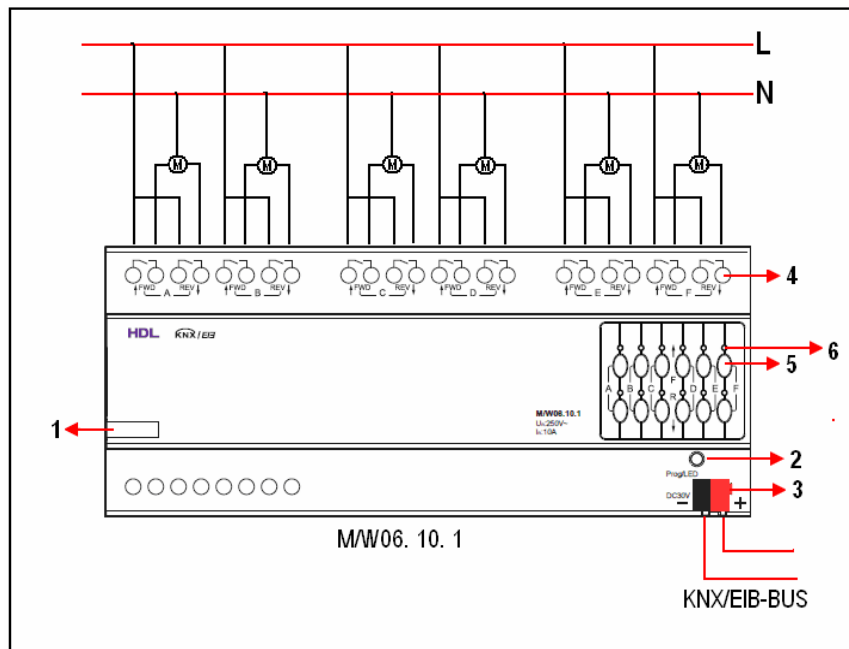
2.2 Dimension drawings



| | | | |
|---|------------|------------|------------|
| | M/W02.10.1 | M/W04.10.1 | M/W06.10.1 |
| X | 72mm | 144mm | 216mm |

2.3 Wiring diagram





- 1 Label area
- 2 Programming button & Programming LED
- 3 KNX/EIB Bus Connector
- 4 Terminal for Load Connection
- 5 Buttons for Up/Down/Stop/Louvre adjustment
- 6 Button corresponding LED

- Note:**
- a) Dimensions of the space to be provided for each switch
 - b) Dimensions and position of the means for supporting and fixing the switch within this space
 - c) Minimum clearance between the various parts of the switch and the surrounding parts where fitted
 - d) Minimum dimensions of ventilating opening, if needed, and their correct arrangement.
 - e) The protective devices (e.g. fuses, automatic protective devices, etc.) to be connected to the load to avoid overloading

2.4 Maintenance and Cautions

- *Please read this user manual carefully before any operation.
- *Don't close to the interfering devices.
- *The site should be ventilated with good cooling environment.
- *Pay attention to damp proof, quakeproof and dustproof.
- *Avoid rain, other liquids or caustic gas.
- *Please contact professional maintenance staff or HDL service center for repair or fix.
- *Remove the dust regularly and do not wipe the unit with the volatile liquids like alcohol, gasoline, etc.

- *If damaged by damp or liquid, turn off it immediately.
- *Regularly check the circuitry and other related circuit or cables and replace the disqualified circuitry on time.
- *For security, each circuit to connect an MCB or fuse
- *Installation location should be well-ventilated, pay attention to moisture, shock, dust proof.

3- Software

HDL KNX/EIB Shutter/Blinds Actuators device types are M/W02.10.1, M/W04.10.1 and M/W06.10.1, and the databases name are “Curtain 2CH Actuator” “Curtain 4CH Actuator”, “Curtain 6CH Actuator”. All Interface and the functions Apply parameters please overview the following description of the paragraph.

Each channel output of the Shutter/Blinds Actuators are independent and the same. So, Understand only one channel output is enough. The following paragraph will description of the first channel output in detail.

3.1 Database functions Overview

The following table provide an overview of the functions and some parameters with the Cuatrain actuators:

| Shutter/Blinds function | M/W02.10.1 | M/W04.10.1 | M/W06.10.1 |
|--------------------------------|------------|------------|------------|
| General | --- | --- | --- |
| Priority on weather alarm | Y | Y | Y |
| Monitoring for weather alarm. | Y | Y | Y |
| Enable/Diable manual operation | Y | Y | Y |
| Cycle telegram (heartbeat) | Y | Y | Y |
| Shutter mode | --- | --- | --- |
| Move shutter up/down | Y | Y | Y |
| Stop moving | Y | Y | Y |
| Limiting travel | Y | Y | Y |
| Move to position(1byte) | Y | Y | Y |
| Status response | --- | --- | --- |

| | | | |
|------------------------------------|-----|-----|-----|
| Status of moving position | Y | Y | Y |
| Status of limit position | Y | Y | Y |
| Status of auto | Y | Y | Y |
| Status byte | Y | Y | Y |
| Reaction after voltage failure | Y | Y | Y |
| Reaction after voltage recovery | Y | Y | Y |
| Position control | --- | --- | --- |
| Set position(1bit) | Y | Y | Y |
| Move to position(1bit) | Y | Y | Y |
| Safety control | --- | --- | --- |
| Wind alarm from bus | Y | Y | Y |
| Rain alarm from bus | Y | Y | Y |
| Frost alarm from bus | Y | Y | Y |
| Forced operation | Y | Y | Y |
| Auto control | --- | --- | --- |
| Auto1 function for sun | Y | Y | Y |
| Auto2 function for heating/cooling | Y | Y | Y |
| Scene control | --- | --- | --- |
| Scene NO.1-64 | Y | Y | Y |
| Blinds mode | --- | --- | --- |
| Move blinds up/down | Y | Y | Y |
| Stop moving/Louvre adjustment | Y | Y | Y |

| | | | |
|------------------------------------|-----|-----|-----|
| Limiting travel | Y | Y | Y |
| Move to position(1 byte) | Y | Y | Y |
| Status response | --- | --- | --- |
| Status of moving position | Y | Y | Y |
| Status of louvre position | Y | Y | Y |
| Status of limit position | Y | Y | Y |
| Status of auto | Y | Y | Y |
| Status byte | Y | Y | Y |
| Reaction after voltage failure | Y | Y | Y |
| Reaction after voltage recovery | Y | Y | Y |
| Position control | --- | --- | --- |
| Set position(1bit) | Y | Y | Y |
| Move to position(1bit) | Y | Y | Y |
| Safety control | --- | --- | --- |
| Wind alarm from bus | Y | Y | Y |
| Rain alarm from bus | Y | Y | Y |
| Frost alarm from bus | Y | Y | Y |
| Forced operation | | | |
| Auto control | --- | --- | --- |
| Auto1 function for sun | Y | Y | Y |
| Auto2 function for heating/cooling | Y | Y | Y |
| Scene control | --- | --- | --- |
| Scene NO.1-64 | Y | Y | Y |

Table1: Database application overview.

Note: For each function and mode, can only be used alone, but "Louvre Adjustment " function can be used with "blinds actuator" mode.

3.2 Object/Association/Group address define

In following table, The objects is assigned to the some function of the channel output pages, If active some functions and the object will be valid. One or more group addresses can be assigned to a object. The association will connect group addresses to the object

| Name | type | Max.number of communication objects | Max.number of associations | Max.number of group address |
|----------------------|------------|-------------------------------------|----------------------------|-----------------------------|
| Curtain 2CH Actuator | M/W02.10.1 | 70 | 254 | 254 |
| Curtain 4CH Actuator | M/W04.10.1 | 130 | 254 | 254 |
| Curtain 6CH Actuator | M/W06.10.1 | 190 | 254 | 254 |

Table2: Overview the max. number of the objects, max.number of associations and max. number of the group addresses

Note: If you use ETS2V1.3, Please import “VD2”, But you use the ETS3.0, Please Import “VD3” to “VD5”.

3.3 Function parameter“General”

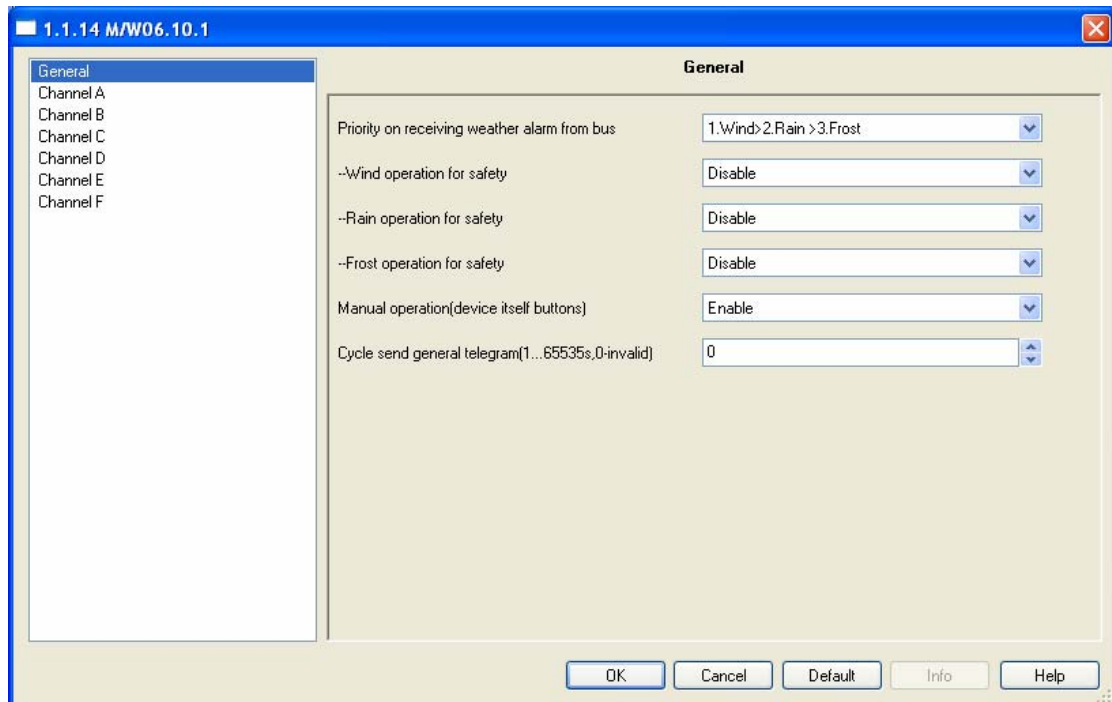


Fig1:“General” parameter windows

In the parameter of the general windows can set some common functions.

--- Priority on receiving weather alarm from bus

Set priority of the weather alarm, the selection of parameter configuration has six kinds of combination.

Options: 1.Wind >2.Rain >3.Frost

1.Wind >2.Frost >3.Rain

1.Rain >2.Wind >3.Frost

1.Rain >2.Frost >3.Wind

1.Frost >2.Wind >3.Rain

1.Frost >2.Rain >3.Wind

The parameter setting to the weather alarm signal is valid according to priority, If the Shutter/Blinds Actuator receives more than one weather alarm signal at the same time, and only one the highest priority weather signal is valid.

--- Wind operation for safety

If set to Enable, and display “Weak wind alarm received”, “Slight wind alarm received”, “Strong wind alarm received” and “Monitoring wind period[1...2000s,0-invalid]”.

Options: - Disable

- Enable

Weak wind alarm received

Slight wind alarm received

Strong wind alarm received

If set to Enable, and the corresponding communication objects is displayed

Options: - Disable

- Enable

Disable: disable “(weak/slight/strong)wind alarm received” communication object.

Enable: enable “(weak/slight/strong)wind alarm received” communication object.

Rain operation for safety

Frost operation for safety

If set to Enable, “Monitoring rain period[1...2000s,0-invalid]”, “Monitoring frost period[1...2000s,0-invalid]” and the corresponding communication objects is displayed.

Options: - Disable

- Enable

Disable: disable “Monitoring rain/frost period” setting and “(rain/frost)wind received” communication object.

Enable: enable “Monitoring rain/frost period” setting and “(rain/frost)wind received” communication object.

Monitoring wind period [1...2000s,0-invalid]

Monitoring rain period[1...2000s,0-invalid]

Monitoring frost period [1...2000s,0-invalid]

The range of cyclical monitoring period is 0 to 2000s. Zero of parameter is invalid.

Options: 0...2.000s

The weather sensors sends telegram which is cyclically monitored by the Shutter/Blinds Actuator.If the weather alarm signal is not received within the monitoring period by the Shutter/Blinds Actuator,the curtain move to the setting alarm position.If weather sensors send a weather alarm signal and the Shutter/Blinds Actuator receive the signal,then the Shutter/Blinds immediated move to the seting alarm position. The monitoring period is restarted to time after receipt of a telegram. The monitoring period of the Shutter/Blinds Actuator is set that is at least two to three times as long as the cyclical sending time of the weather sensor, so that do not receive the signal and Shutter/Blinds immediately move to the seting alarm position.

--- Cycle send general telegram(1..65535s,0-invalid)

The range of the parameter is 0 to 65535s. Zero of parameter disable the function , other of parameter enable this function

Options: 0...65535s

The parameter set to nonzero, Device will send a telegram data cyclically when time out. Send the value alternately between 0 and 1.

3.4 Function parameter Channel “N”

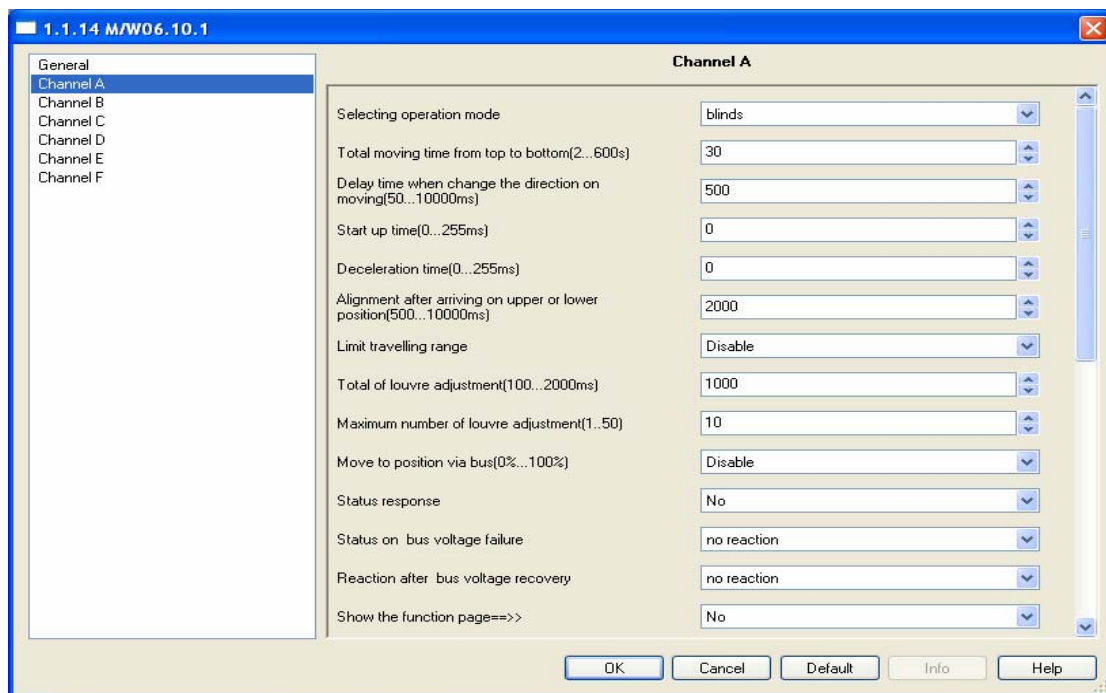


Fig2: “Channel N” parameter(N=A,B,C...) windows

In the parameter windows of the “Channel N”, can setup some common functions. Through functional selection and download the database to the device, and device will work in accordance with the selected function.

---Selecting operation mode

The function of operation mode can be selected with two parameters.

Options: -*Shutter*
- Blinds

Shutter: selecting shutter mode.

Blinds: selecting blinds mode.

The function of Shutter and Blinds mode is similar, only in Blinds mode increase a few parameters and communication objects about louvre control. If unstand the function of blinds and the function of shutter is naturally unstand.

3.5 Channel mode “blinds”

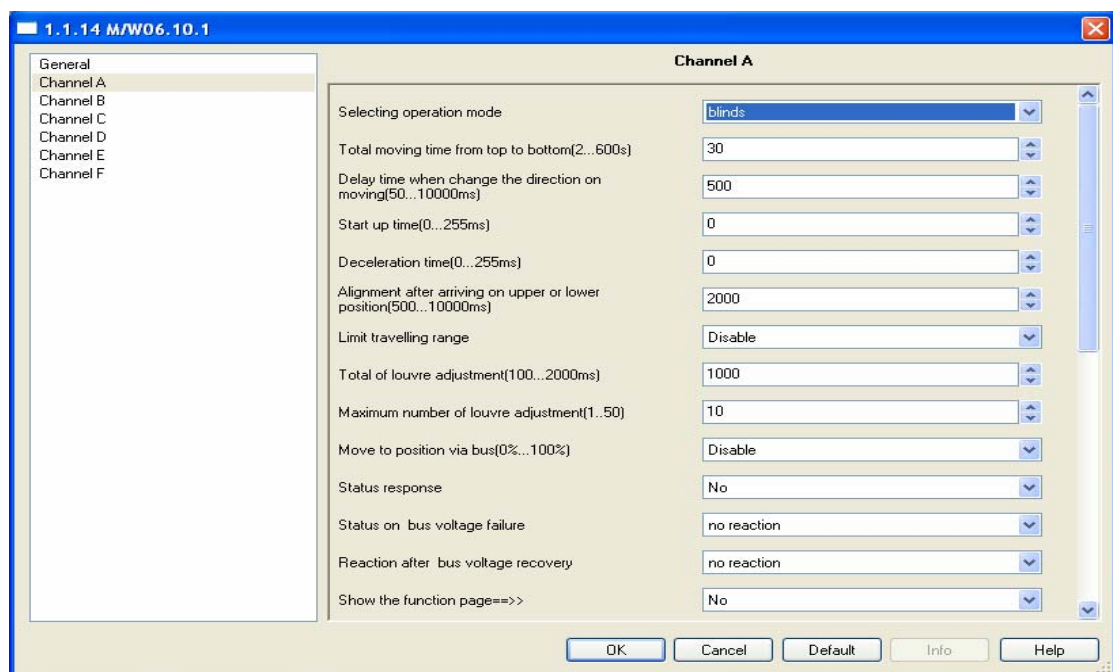


Fig3: Curtain Actuator windows

More functions setup in this mode, the following section will description detailed of the Blinds mode.

--- Total moving time from top to bottom[s]

Options: 2...600s

Set the total moving time when Shutter/Blinds from top to bottom .

--- Delay time when chang direction on moving [ms]

Options: 50...10,000ms

Set delay time when Shutter/Blinds change in direction on moving,so that up or down is not immediately changed when Shutter/Blinds is moving.

--- Start up time [ms]

Options: 0...255ms

Setting the start-up time of the drive.

---Deceleration time [ms]

Options: 0...255ms

Setting the deceleration time of the drive.

---Alignment after arriving on upper or lower position [ms]

Set the time when Shutter/Blinds continue to move up or down after arriving upper or lower.

---Limit travelling range

If select to Enable,and set the range of shutter/blinds travel.

Options: – Disable

– Enable

Disable:disable “Upper/Lower limit” setting and limit travelling communication object.

Enable:enable “Upper/Lower limit” setting and limit travelling communication object.

---Upper limit 0..100 %

---Lower limit 0..100 %

Set “Upper limit” or “Lower limit” parameterized value.

---Total of louver adjustment 100..2000ms

The parameter is set only in the Blinds mode.

Options: 100..2000ms

Setting complete louver adjustment time from 0%(0) to 100%(255).

---Maximum number of louver adjustment 1..50

The parameter is set only in blinds mode.

Options: 1..50

Setting the maximum number of louver adjustment from 0%(0) to 100%(255).

---Move to position via bus 0%..100%

If set to Enable,and “move to position” and “move louver to position(only in Blinds mode)” communication objects is displayed, The Shutter/Blind can be

moved to position and only in blinds mode the louvres also can be adjusted at any angle according to receiving communication objects value.

Options: - Disable
- Enable

Disable:disable move to position” and “move louver to position(only in blinds mode)” objects.

Enable:enable move to position” and “move louver to position(only in blinds mode)” objects.

---Status respond:

If set to Yes,and status parameters configuration is displayed.

Options: -No
-Yes

No: status respond is not displayed.

Yes: status respond is displayed.

->Send position: 0%..100%

The Curtain Actuator sends status value according to current position and louver position value.But only in blinds mode,louvre position status communication object is displayed and send.

Options: -Disable
-Enable

Disable: disable current position/louver position communication object.

Enable: enable current position/louver position communication object.

->Send limit position reached

The Curtain Actuator sends status after shutter/blinds arriving upper or lower.

Options: - Disable
- Enable

Disable: disable limit position status communication.

Enable: enable limit position status communication.

->Send status of automatic control

If automatic control is activated or deactivated,and the Curtain Actuator sends present status.

Options: - Disable
- Enable

Disable: disable automatic control status communication object.

Enable: enable automatic control status communication object.

->Send status of forced operation alarm

If forced operation is activated or deactivated,and the Shutter/Blinds Actuator sends present status.

Options: - *Disable*

- Enable

Disable: disable forced operation status communication object.

Enable: enable forced operation status communication object.

---Status on bus voltage failure

Set the Shutter/Blinds reaction after bus voltage failure.

Options: - no reaction

- up

- down

- *stop*

up: The Shutter/Blinds will move to up after bus voltage failure.

down: The Shutter/Blinds will move to down after bus voltage failure.

stop: The Shutter/Blinds will stop after bus voltage failure.

---Reaction after bus voltage recovery

Setting to The Shutter/Blinds react after bus voltage recovery

Options: - no reaction

- up

- down

- *stop*

- set position

up: The Shutter/Blinds will move to up after bus voltage recovery.

down: The Shutter/Blinds will move to down after bus voltage recovery.

stop: The Shutter/Blinds will stop after bus voltage recovery.

set position: set position or louver value is displayed.

->Output position value

Options:(0%...100%)

Setting to the range of position value

->Output louver value

Options:(0%...100% or invalid)

Setting the range of louver value.

3.5.1 Channel function

The following will describe detail the functions parameter setup of the channel.

---Show function page

Options: - No

- Yes

If set to Yes, and channel function page will be showed. The function page Include Position control, Safety control, Auto control and Scene control. Details see the following sections.

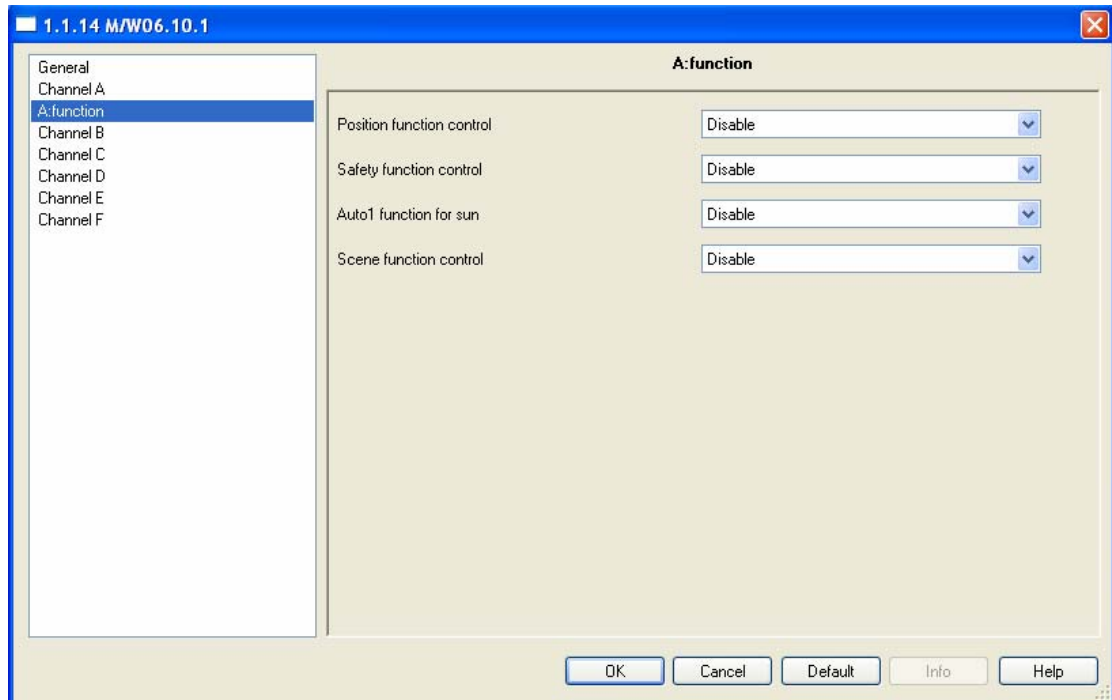


Fig4: Channel function windows

In normal case, The each channel function is disabled, If enabled and the channel function will be valid.

---Position function control

If set to Enable, and Position function control will be Enable.

Options: - Disable
- Enable

Disable: disable position function.

Enable: enable position function.

---Safety function control

If set to Enable, and Safety function control will be Enable.

Options: - Disable
- Enable

Disable: disable safety control function.

Enable: enable safety control function.

---Auto1 function for sun

If set to Enable, and Auto1 function will be Enable, "Auto2 function for heating/cooling" is displayed at the time.

Options: - Disable
- Enable

Disable: *disable auto1 control function.*

Enable: *enable auto1 control function.*

->Auto2 function for heating/cooling

If set to Enable, and Auto2 function will be Enable.

Options: - Disable

- Enable

Disable: *disable auto2 control function.*

Enable: *enable auto2 control function.*

---Scene function control

If set to Enable, and Scene function will be Enable.

Options: - Disable

- Enable

Disable: *disable scene control function.*

Enable: *enable scene control function.*

3.5.2 Channel function “position”

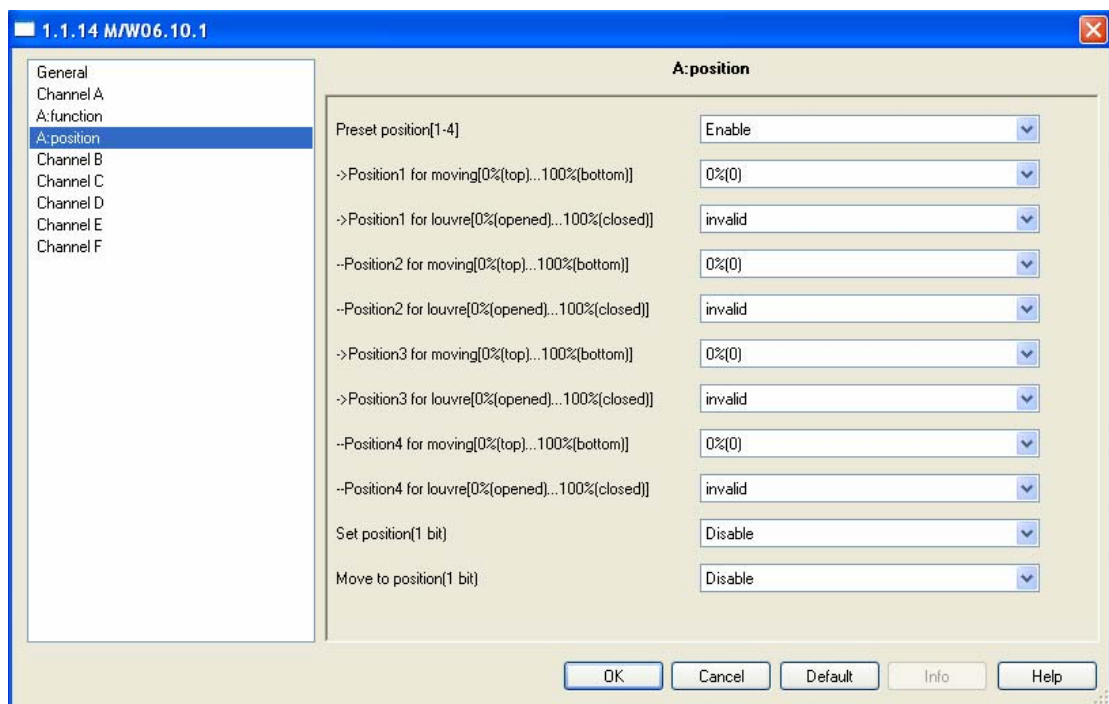


Fig5: Time function windows

The position function as following:

--- Preset position[1-4]

If set to Enable, the following parameter is displayed.

Options: - Disable
- Enable

Disable: disable preset position setting.

Enable: enable preset position setting.

->**Position1** for moving[0%(top)...100%(bottom)]
->**Position1** for louvre[0%(opened)...100%(closed)](only in blinds mode)
---**Position2** for moving[0%(top)...100%(bottom)]
---**Position2** for louvre[0%(opened)...100%(closed)](only in blinds mode)
->**Position3** for moving[0%(top)...100%(bottom)]
->**Position3** for louvre[0%(opened)...100%(closed)](only in blinds mode)

---**Position4** for moving[0%(top)...100%(bottom)]
---**Position4** for louvre[0%(opened)...100%(closed)](only in blinds mode)

The preset position is set with this parameter.

Set position(1 bit)

The preset position is update with a(1bit) telegram.

Options: - Disable
- Enable

Disable: disable set position communication object.

Enable: enable set position communication object.

Move to position(1 bit)

The shutter/blinds move to preset position when this communication object receive a telegram with the value "1bit".

Options: - Disable
- Enable

Disable: disable move to position(1bit) communication object.

Enable: enable move to position(1bit) communication object.

3.5.3 Channel function “safety”

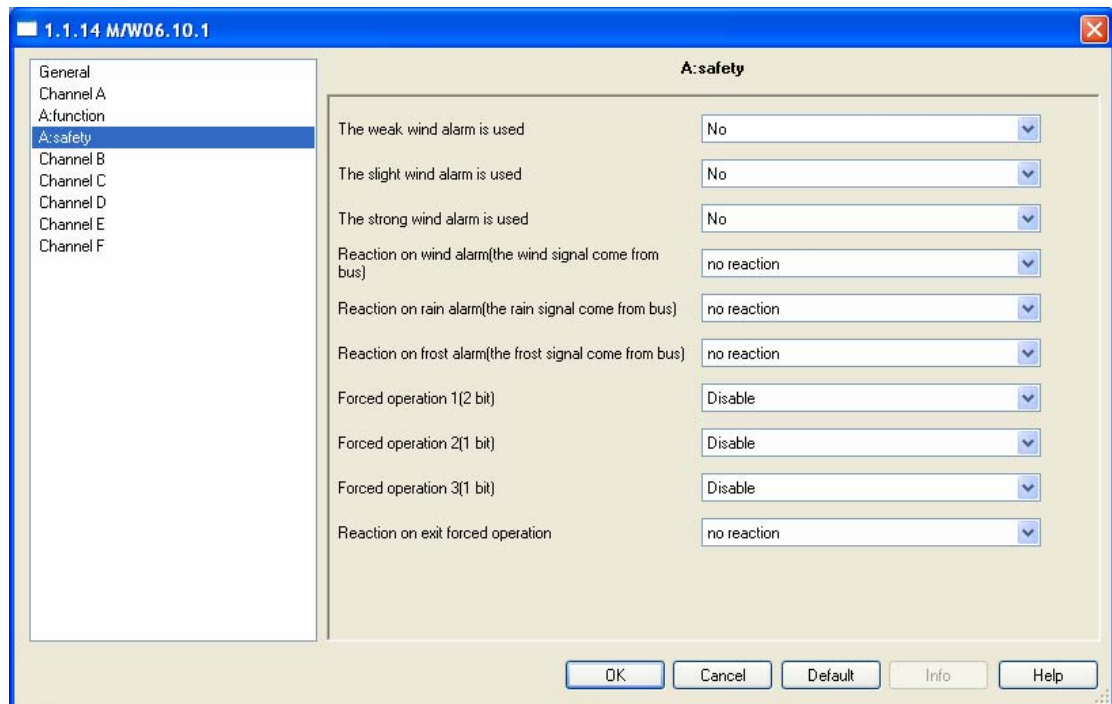


Fig9: Safety function windows

---**The weak wind alarm is used**

---**The slight wind alarm is used**

---**The strong wind alarm is used**

If set to Yes, the corresponding communication object is valid.

Options: - No

-Yes

No: (weak/slight/strong)wind alarm signal is not used.

Yes: (weak/slight/strong)wind alarm signal is used.

---**Reaction on wind alarm(the wind signal come from bus)**

---**Reaction on rain alarm(the rain signal come from bus)**

---**Reaction on frost alarm(the frost signal come from bus)**

Setting the Shutter/Blinds reaction with this parameter. Wind alarm, rain alarm and frost alarm is interrupted if remote control (such as up/down or Stop/Louver adjustment), manual operation or forced operation is operated.

Options: - no reaction

- up

- down

- stop

- only set louver position (only in blinds mode)

no reaction: the Shutter/Blinds is on reaction when receive wind (rain/frost) signal.

up: the Shutter/Blinds move to up when receive wind (rain/frost) signal.

down: the shutter/blinds move to down when receive wind (rain/frost) signal.

stop: the Shutter/Blinds stop when receive wind(rain/frost) signal.

only set louver position: can set the shutter/blinds adjustment louver position.

Remote control include the following content:

1. Move up/down,
2. Stop/Louver adjustment
3. Move to position(1byte)/Move louver to position(only in the Blinds mode)
4. Limit traveling control
5. Move to position(one bit preset position(1-4))
6. Set position (modification of the preset position via the EIB/KNX)
7. Scene control

->Output louver value

Options:(0%...100%)

Set to the range of louver value.

---Forced operation 1(2 bit)

If set to Enable, the corresponding communication object can receive “2bit” and control the Shutter/Blinds up/down. All operation is interrupted if forced operation is operated.

Options: - Disable
- Enable

Disable: disable forced operation communication object.

Enable: enable forced operation communication object.

---Forced operation 2(1 bit)

---Forced operation 3(1 bit)

If set to Enable, the corresponding communication object can receive “1bit” and control the Shutter/Blinds with parameter value. All operation is interrupted if forced operation is operated.

Options: - Disable
- Enable

Disable: disable forced position setting and forced operation communication object.

Enable: forced position setting and enable forced operation communication object.

---Reaction on exit forced operation

Setting the Shutter/Blinds reaction when forced operation is exit, and other operation will be able to operate.

Options: - no reaction

- up
- down
- stop
- Last position

no reaction: the Shutter/Blinds is no reaction when exit forced operation.

up: the Shutter/Blinds move to up when exit forced operation.

down: the Shutter/Blinds move to down when exit forced operation.

stop: the Shutter/Blinds stop when exit forced operation.

Last position: the Shutter/Blinds move to last position when exit forced operation.

3.5.4 Channel function “Auto1”

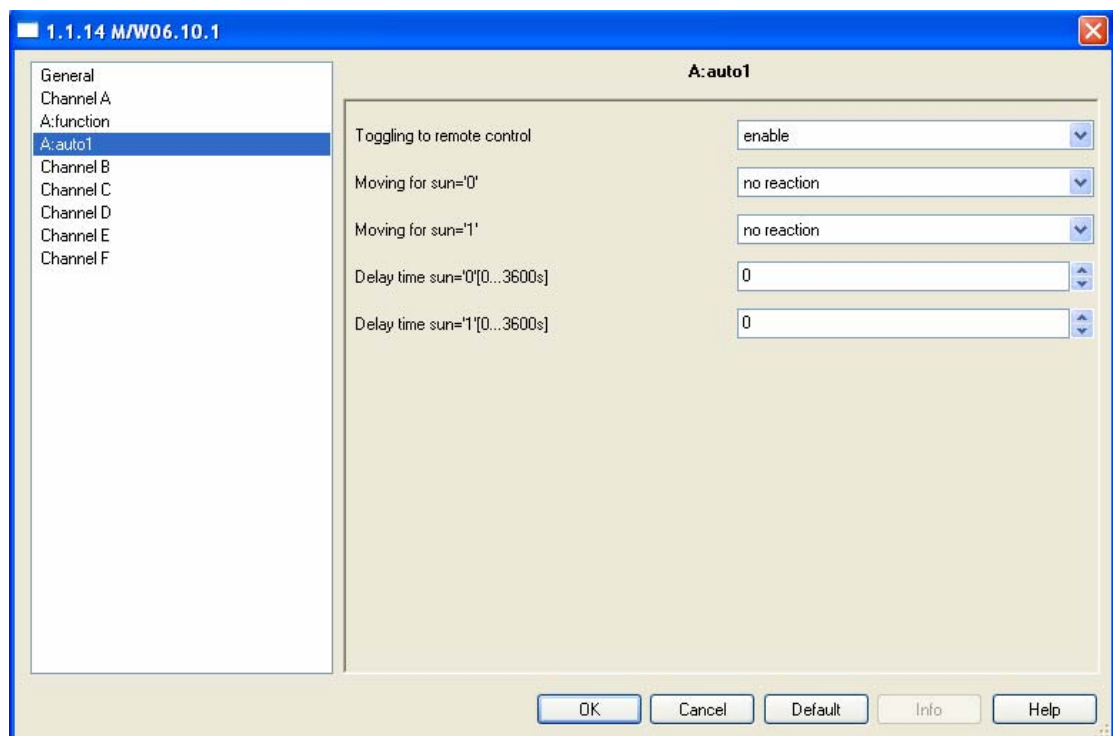


Fig9: Auto1 function windows

---Toggling to remote control

Setting to remote enable control or enable/disable remote control with communication object.

Options: - enable

- communication object enable/disable

enable: enable remote control.

communication object enable/disable: enable/disable remote control with communication object.

---Moving for sun = "0" (no sun)

---Moving for sun = "1" (sun)

If the “Sun=“0” or “1” ” communication object receive a telegram with the value “0” , the Shutter/Blinds is moved to position according to setting of parameter “Moving for sun = “0””, If the “Sun=“0” or “1” ” communication object receive a telegram with the value “1” , the shutter/blinds is moved to position according to setting of parameter “Moving for sun = “1””.

If set to “Receive percentage value(8bits)”, and the Shutter/Blinds move to position or adjust louver position according to receipt value of (8bit) objects. But adjust louver position only in the Blinds mode. All operation priority is highest auto control ,so auto control is interrupted if other operation is carried out.

Options: - no reaction

- *up*
- down
- stop
- Position 1 to Position 4
- Receive percentage value(8bits)

no reaction: the shutter/blinds is no reaction when have (no) sun.

up: the Shutter/Blinds move to up when have (no) sun.

down: the Shutter/Blinds move to down when have (no) sun..

stop: the Shutter/Blinds stop when have (no) sun.

Position 1 to Position 4: the shutter/blinds move to preset position when have (no) sun.

Receive percentage value(8bits):the Shutter/Blinds react according to receiving value.

---Delay for sun = 0 [s]

---Delay for sun = 1 [s]

Options: 0...3600s

Setting delay time “sun=0” or “sun=1” after receiving a telegram value, and avoid shutter/blinds move immediately.

3.5.5 Channel function “Auto2”

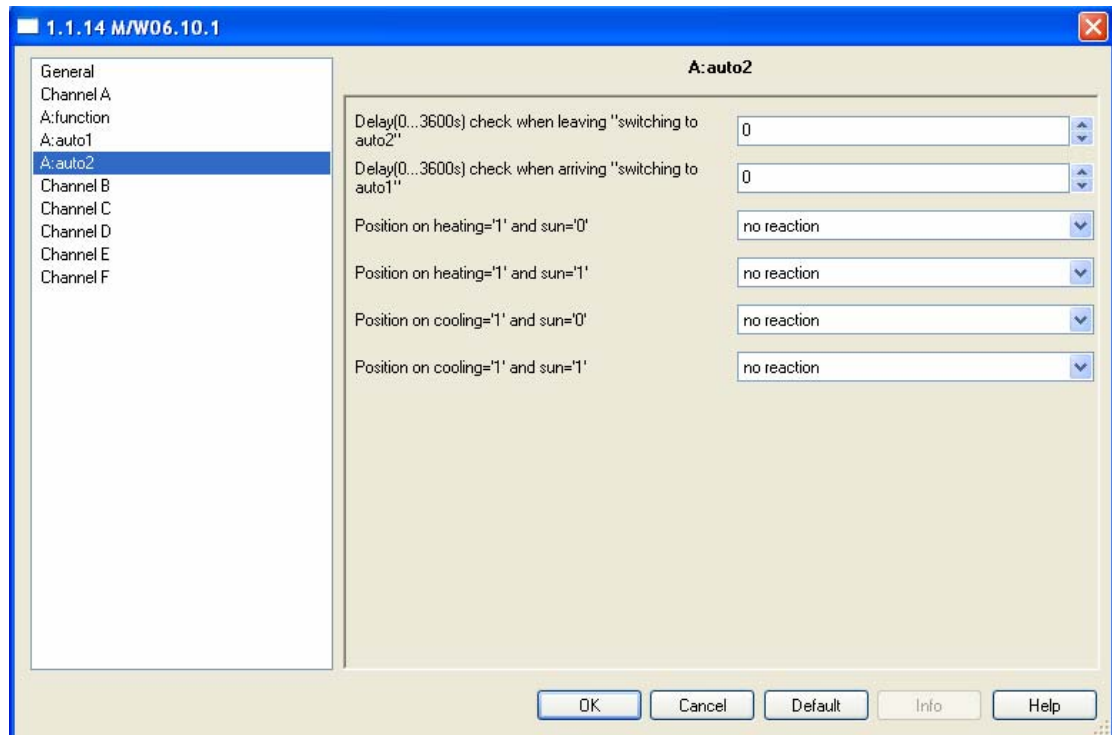


Fig9: Auto2 function windows

---Delay(0...3600s) check when leaving “switching to auto2” [s]

---Delay(0...3600s) check when arriving “switching to auto1” [s]

Options: 0...3600s

Set delay time for presence(arriving/leaving).If a person enters the room,and begin to delay when more than “Delay(0...3600s) check when arriving switching to auto1” [s]” parameter configuration value. the shutter/blinds will switch to auto1(sun protection). If a person leaves the room, and begin to delay when more than “check when leaving “switching to auto2” [s]” parameter configuration value. the shutter/blinds will switch to auto2(heating/cooling control).The heating/cooling control is used to move to position according to temperature changing. For example,if have sun(sun=“1”) and want to be heating(heating=“1”) so that increase the quantity of heat of the room and open Shutter/Blinds.if have no sun(sun=“0”) and want to be cooling(cooling=“1”) so that keep the quantity of heat of the room and close Shutter/Blinds.

---Position for heating = “1” and sun = “1”

---Position for heating = “1” and sun = “0”

---Position for cooling = “1” and sun = “1”

---Position for cooling = “1” and sun = “0”

Shutter/Blinds move to the corresponding setting position if heat/cooling auto is activated.But all operation priority is highest auto control ,so auto control is interrupted if other operation is carried out.

- Options: - no reaction
 - up
 - down
 - stop
 - Position 1 to Position 4

no reaction: the shutter/blinds is no reaction when heating/cooling and sun/nosun.

up: the shutter/blinds move to up when heating/cooling and sun/nosun.

down: the shutter/blinds move to up when heating/cooling and sun/no sun.

stop: the shutter/blinds stop when heating/cooling and sun/nosun.

Position 1 to Position 4: the shutter/blinds move to preset position when heating/cooling and sun/nosun.

3.5.6 Channel function “Scene”

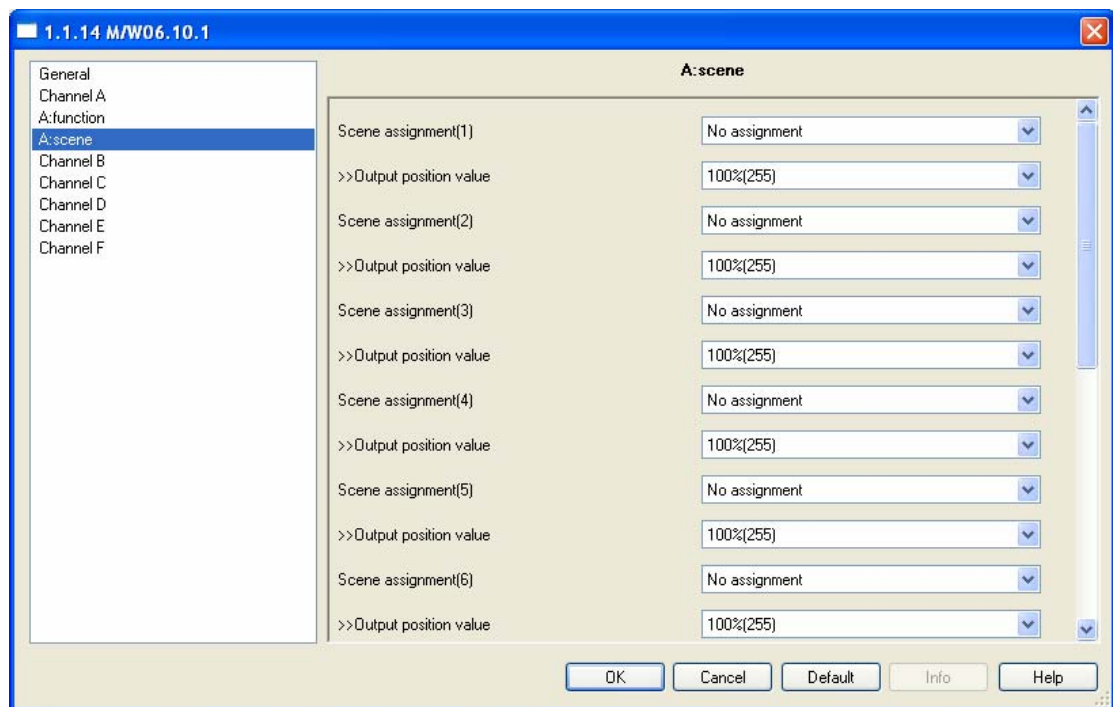


Fig9: scene function windows

In each channel it has 10 scenes can be stored . Each scene can be set to 0% to100%.

The scene is called by receive a value of telegram from the bus which the value of the telegram(bit 0-6) equal a scene number, The bit seven of value of the telegram must 0 .

The scene is stored by receive a value of telegram from the bus which the value of the telegram(bit 0-6) equal a scene number, The scene state is the current shutter/blinds position state. The bit seven of value of the telegram must 1.

---Scene assignment(scene 1...64 or no assignment)

Options: no assignment

Scene NO.01

Scene NO.02

.....

Scene NO.64

The scene number is between 1 and 64, the value is between 0 and 63 no assignment.

---Output position value

Options:0%(0)...100%(255)

The range of output position value can be set 0%(0)...100%(255).

4- Communication objects description

In this section will introduce the communication objects, The objects will show by setting the function enable .

Note: In following sections the N=A,B,C...

4.1 Objects “General” and “Output N”

| Number | Name | Object Function | Description | Group Addresses | Length | C | R | W | T | U |
|--------|----------|----------------------------|-------------|-----------------|--------|---|---|---|---|---|
| 0 | General | Send cycles | | | 1 bit | C | R | - | T | - |
| 1 | General | Weak wind alarm received | | | 1 bit | C | - | W | - | U |
| 2 | General | Slight wind alarm received | | | 1 bit | C | - | W | - | U |
| 3 | General | Strong wind alarm received | | | 1 bit | C | - | W | - | U |
| 4 | General | Rain alarm received | | | 1 bit | C | - | W | - | U |
| 5 | General | Frost alarm received | | | 1 bit | C | - | W | - | U |
| 10 | Output A | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 11 | Output A | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 40 | Output B | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 41 | Output B | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 70 | Output C | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 71 | Output C | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 100 | Output D | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 101 | Output D | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 130 | Output E | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 131 | Output E | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 160 | Output F | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 161 | Output F | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |

| NO. | Object name | Function | Flags | Data type |
|---|-------------|----------------------------|-------|-------------------|
| 0 | General | Send cycles | C R T | DPT 1.003 1bit |
| This communication object is always active and valid. invert the value send telegram to bus in next frame. e.g. last telegram value is “1”, the next telegram value is “0”. | | | | |
| 1 | General | Weak wind alarm received | C W U | DPT 1.005 1bit |
| 2 | General | Slight wind alarm received | C W U | DPT 1.005 1bit |
| 3 | General | Strong wind alarm received | C W U | DPT 1.005 1bit |
| 4 | General | Rain alarm received | C W U | DPT 1.005 1bit |
| 5 | General | Frost alarm received | C W U | DPT 1.005 1bit |
| These communication objects are used to receive cyclically telegrams.If the object receives a telegram(value=“1”) or doesn’t receive telegram within the monitoring | | | | |

period, the Shutter/Blinds will move to the setting “Reaction on wind(rain or frost) alarm”. If the object receives a telegram (value=“0”) within the monitoring period, the Shutter/Blinds will move to the setting “Reaction on wind(rain or frost) alarm”. The monitoring period is restarted to count time after the object receiving each telegram.

Table 3.General object

| NO. | Object name | Function | Flags | Data type |
|---|-------------|---|-------|-------------------|
| 10,... | Ouput N | Move shutter up/down Move blinds up/down | C W U | DPT 1.008 1bit |
| This communication object is used to move the Shutter/Blinds ,If the object receives the value “0” ,the Shutter/Blinds will move upwards. If the object receives the value “1”, the Shutter/Blinds will move downwards. The Shutter/Blinds will stop automatically if arrives on the upper or lower end position. | | | | |
| 11,... | Ouput N | Stop moving Adjust louvre/Stop moving | C W U | DPT 1.007 1bit |
| This communication object is used to stop moving or adjust louver,If the Shutter/Blinds is moving, the Shutter/Blinds is stopped when a telegram is received at this communication object, no matter what receives a “1” or a “0”. Only in the Blinds mode,if Blinds on stopping status,and adjust louvre upwards after receiving value“0” or adjust louvre downwards after receiving value“1”.In the Shutter mode, If Shutter on stopping status and a telegram is received,the shutter/blinds is no reaction. | | | | |

4.2 All objects with channel “N”

| Number | Name | Object Function | Description | Group Addresses | Length | C | R | W | T | U |
|--------|-----------------|-------------------------------|-------------|-----------------|--------|---|---|---|---|---|
| 0 | General | Send cycles | | | 1 bit | C | R | - | T | - |
| 1 | General | Weak wind alarm received | | | 1 bit | C | - | W | - | U |
| 2 | General | Slight wind alarm received | | | 1 bit | C | - | W | - | U |
| 3 | General | Strong wind alarm received | | | 1 bit | C | - | W | - | U |
| 4 | General | Rain alarm received | | | 1 bit | C | - | W | - | U |
| 5 | General | Frost alarm received | | | 1 bit | C | - | W | - | U |
| 10 | Output A | Move blinds up/down | | | 1 bit | C | - | W | - | U |
| 11 | Output A | Adjust louvre/Stop moving | | | 1 bit | C | - | W | - | U |
| 12 | Output A | Limit travelling | | | 1 bit | C | - | W | - | U |
| 13 | Output A | Move to position(0%..100%) | | | 1 Byte | C | - | W | - | U |
| 14 | Output A | Move louvre to position | | | 1 Byte | C | - | W | - | U |
| 15 | Output A | Object status of position | | | 1 Byte | C | R | - | T | - |
| 16 | Output A | Object status of louvre pos | | | 1 Byte | C | R | - | T | - |
| 17 | Output A | Object status of upper pos | | | 1 bit | C | R | - | T | - |
| 18 | Output A | Object status of lower pos | | | 1 bit | C | R | - | T | - |
| 19 | Output A | Object status of auto | | | 1 bit | C | R | - | T | - |
| 20 | Output A | Object status of forced alarm | | | 1 bit | C | R | - | T | - |
| 21 | Output A | Set position 1/2 | | | 1 bit | C | - | W | - | U |
| 22 | Output A | Set position 3/4 | | | 1 bit | C | - | W | - | U |
| 23 | Output A | Move to position 1/2 | | | 1 bit | C | - | W | - | U |
| 24 | Output A | Move to position 3/4 | | | 1 bit | C | - | W | - | U |
| 25 | Output A | Activation of weather alarm | | | 1 bit | C | - | W | - | U |
| 26 | Output A Safety | Forced operation1 | | | 2 bit | C | - | W | - | U |
| 27 | Output A Safety | Forced operation2 | | | 1 bit | C | - | W | - | U |
| 28 | Output A Safety | Forced operation3 | | | 1 bit | C | - | W | - | U |
| 29 | Output A | Activation of auto control | | | 1 bit | C | - | W | - | U |
| 30 | Output A Auto1 | Sun="0 or 1" | | | 1 bit | C | - | W | - | U |
| 31 | Output A Auto1 | Position percentage for sun | | | 1 Byte | C | - | W | - | U |
| 32 | Output A Auto1 | Louvre percentage for sun | | | 1 Byte | C | - | W | - | U |
| 33 | Output A | Enable/Disable remote control | | | 1 bit | C | - | W | - | U |
| 34 | Output A | Presence check(arrive/leave) | | | 1 bit | C | - | W | - | U |
| 35 | Output A Auto2 | Heating | | | 1 bit | C | - | W | - | U |
| 36 | Output A Auto2 | Cooling | | | 1 bit | C | - | W | - | U |
| 37 | Output A | Call scene number | | | 1 Byte | C | - | W | - | U |

4.2.1 Objects“limit travelling”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|------------------|-------|-------------------|
| 12,... | Ouput N | Limit travelling | C W U | DPT 1.008 1bit |
| <p>This communication object is used to limit the range of Shutter/Blinds travel. If the object receives a telegram(value =“0”) , the Shutter/Blinds will move upwards. If the object receives a telegram(value=“1”), the Shutter/Blinds will move downwards. The Shutter/Blinds will stop automatically if receives the setting upper or lower limit position.</p> | | | | |

4.2.2 Objects“Move to position”

| NO. | Object name | Function | Flags | Data type |
|--|-------------|----------------------------|-------|--------------------|
| 13,... | Ouput N | Move to position(0%..100%) | C W U | DPT 5.001 1byte |
| <p>This communication object is used to move to any position according to receiving value. The range of telegram value is 0(0%) to 255(100%) ,the top vale is “0” and buttom is ”255”.</p> | | | | |

4.2.3 Objects“Move louvre to position”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|-------------------------|-------|--------------------|
| 14,... | Ouput N | Move louvre to position | C W U | DPT 5.001 1byte |
| <p>This communication object is used to move to any louvre position according to receiving value. The range of telegram value is 0(0%) to 255(100%),the open is “0” and close is “255”. Only if the Shutter/Blinds stop status, and adjusting louvre position is valid.</p> | | | | |

4.2.4 Objects“status of position”

| NO. | Object name | Function | Flags | Data type |
|--|-------------|---------------------------|-------|--------------------|
| 15,... | Ouput N | Object status of position | C R T | DPT 5.001 1byte |
| <p>This communication object is used to send position status when Shutter/Blinds position is changed,If the current position of the Shutter/Blinds is changed and stopped, and send the current position of the Shutter/Blinds to this communication object.</p> | | | | |

4.2.5 Objects“status of louvre position”

| NO. | Object name | Function | Flags | Data type |
|--|-------------|-----------------------------|-------|--------------------|
| 16,... | Ouput N | Object status of louvre pos | C R T | DPT 5.001 1byte |
| <p>This communication object is used to send position status when Shutter/Blinds louvre position is changed, the current position of the louvre is send to this communication object by the Shutter/Blinds Actuator.</p> | | | | |

4.2.6 Objects“status of upper pos”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|----------------------------|-------|-------------------|
| 17,... | Ouput N | Object status of upper pos | C R T | DPT 1.008 1bit |
| <p>This communication object is used to send status when Shutter/Blinds move to upper.The Shutter Actuator sends the value “1” to this communication object if the Shutter/Blinds reaches the upper limit position. The Shutter Actuator sends the value “0” to this communication object if the shutter/blind exit the upper limit position.</p> | | | | |

4.2.7 Objects“status of lower pos”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|----------------------------|-------|-------------------|
| 18,... | Ouput N | Object status of lower pos | C R T | DPT 1.008 1bit |
| This communication object is used to send status when Shutter/Blinds move to lower.The Shutter Actuator sends the value “1” to this communication object if the shutter/blind reaches the lower limit position. The Shutter Actuator sends value “0” to this communication object if the shutter/blind exit the lower limit position. | | | | |

4.2.8 Objects“status of auto”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|-----------------------|-------|-------------------|
| 19,... | Ouput N | Object status of auto | C R T | DPT 1.011 1bit |
| This communication object is used to send status when auto is activated or deactivated.The Shutter/Blinds Actuator sends the value “1” to this communication object if automatic control is activated. The Shutter Actuator sends the value “0” to this communication object if automatic control is deactivated. | | | | |

4.2.9 Objects“status of forced operation”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|-------------------------------|-------|--------------------|
| 20,... | Ouput N | Object status of forced alarm | C R T | DPT 1.005 1byte |
| This communication object is used to send status when forced operation is activated or deactivated.The Shutter/Blinds Actuator sends the value “1” to this communication object if forced operation is activated. The Shutter Actuator sends the value “0” to this communication object if forced operation has been deactivated. | | | | |

4.2.10 Objects“Set position 1/2”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|------------------|-------|-------------------|
| 21,... | Ouput N | Set position 1/2 | C W U | DPT 1.022 1bit |
| This communication object is used to set the preset position.If this communication object receives a telegram (value =“0”), the current position is saved as the preset | | | | |

value of the position1. If this communication object receives (value =“1”), the current position is saved as the preset value of the position2 .

4.2.11 Objects“Set position 3/4”

| NO. | Object name | Function | Flags | Data type |
|--------|-------------|------------------|-------|-------------------|
| 22,... | Ouput N | Set position 3/4 | C W U | DPT 1.022 1bit |

This communication object is used to set the preset position.If this communication object receives a telegram (value =“0”), the current position is saved as the preset value of the position3. If this communication object receives (value =“1”), the current position is saved as the preset value of the position4 .

4.2.12 Objects“Move to position 1/2”

| NO. | Object name | Function | Flags | Data type |
|--------|-------------|----------------------|-------|-------------------|
| 23,... | Ouput N | Move to position 1/2 | C W U | DPT 1.022 1bit |

This communication object is used to move to the preset position.If this communication object receives a telegram, the shutter/blind will move to the preset position. If the value “0” is received, the shutter/blind will move to position1. If the value “1” is received, the shutter/blind will move to position2.

4.2.13 Objects“Move to position 3/4”

| NO. | Object name | Function | Flags | Data type |
|--------|-------------|----------------------|-------|-------------------|
| 24,... | Ouput N | Move to position 3/4 | C W U | DPT 1.022 1bit |

This communication object is used to move to the preset position.If this communication object receives a telegram, the shutter/blind will move to the preset position. If the value “0” is received, the shutter/blind will move to position3. If the value “1” is received, the shutter/blind will move to position 4.

4.2.14 Objects“Activation of weather alarm”

| NO. | Object name | Function | Flags | Data type |
|--------|-------------|-----------------------------|-------|-------------------|
| 25,... | Ouput N | Activation of weather alarm | C W U | DPT 1.011 1bit |

This communication object is used to activate weather alarm.If this communication object receives a telegram (value=“1”), the weather alarm is activated. If this

communication object receives a telegram (value="0"), the weather alarm is deactivated.

4.2.15 Objects "Forced operation1"

| NO. | Object name | Function | Flags | Data type |
|---|---------------------------|----------------------|-------|-------------------|
| 26,... | Ouput N Safety | Forced operation1 | C W U | DPT 2.008 2bit |
| <p>This communication object is used to force operation.If this communication object receives a telegram (value ="2" ,binary ="10"), the shutter/blind is up and other operation is diable. If this communication object receives a telegram (value "3", binary= "11") , the shutter/blind is down and othrer operation is diable. If this communication object receives a telegram (value ="0" ,binary="00") or (value ="1", binary="01"), the shutter/blind will move to the "Position on reset of forced operation" position and other operation re-enabled.</p> | | | | |

4.2.16 Objects "Forced operation1"

| NO. | Object name | Function | Flags | Data type |
|---|---------------------------|----------------------|-------|-------------------|
| 27,... | Ouput N Safety | Forced operation2 | C W U | DPT 1.001 1bit |
| <p>This communication object is used to force operation.If this communication object receives a telegram (value= "1" ,binary ="01") , the shutter/blind will move to the setting position and othrer operation is diable. If this communication object receives a telegram (value= "0" ,binary ="00") , the shutter/blind will move to the "Position on reset of forced operation" position and other operation re-enabled.</p> | | | | |

4.2.17 Objects "Forced operation3"

| NO. | Object name | Function | Flags | Data type |
|---|---------------------------|----------------------|-------|-------------------|
| 28,... | Ouput N Safety | Forced operation3 | C W U | DPT 1.001 1bit |
| <p>This communication object is used to force operation.If this communication object receives a telegram (value= "1" ,binary ="01") , the shutter/blind will move to the setting position and othrer operation is diable. If this communication object receives a telegram (value= "0" ,binary ="00") , the shutter/blind will move to the "Position on reset of forced operation" position and other operation re-enabled.</p> | | | | |

4.2.18 Objects“Activation of auto control”

| NO. | Object name | Function | Flags | Data type |
|--|-------------|----------------------------|-------|-------------------|
| 29,... | Ouput N | Activation of auto control | C W U | DPT 1.011 1bit |
| This communication object is used to activate weather alarm.If this communication object receives the value“1”, the auto control is activated. If this communication object receives a telegram with the value“0”, the weather alarm is deactivated. | | | | |

4.2.19 Objects“Sun="0 or 1”

| NO. | Object name | Function | Flags | Data type |
|---|------------------|--------------|-------|-------------------|
| 30,... | Ouput N Auto1 | Sun="0 or 1” | C W U | DPT 1.002 1bit |
| This communication object is used to recives Sun="0 or 1” signal.Only automatic control is activated, this communication object receives telegram is valid. If this communication object receives a telegram (value="0"), the Shutter/Blinds will move to the setting position “Moving for sun = 0” after “ Delay time sun= 0”. If this communication object receives a telegram (value="1"), the Shutter/Blinds will move to the setting position “Moving for sun = 1” after “ Delay time sun= 1”. | | | | |

4.2.20 Objects“Move to position for sun”

| NO. | Object name | Function | Flags | Data type |
|--|------------------|-----------------------------|-------|--------------------|
| 31,... | Ouput N Auto1 | Position percentage for sun | C W U | DPT 5.001 1byte |
| This communication object is used to move to position when auto is activated.The shutter/blinds will move to position according to receiving position value. | | | | |

4.2.21 Objects“Adjust louvre for sun”

| NO. | Object name | Function | Flags | Data type |
|--|------------------|---------------------------|-------|--------------------|
| 32,... | Ouput N Auto1 | Louvre percentage for sun | C W U | DPT 5.001 1byte |
| This communication object is used to move to position when auto is activated.The shutter/blinds will move to louvre position according to receiving louvre position value. | | | | |

4.2.22 Objects“Enable/Disable remote control”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|-------------------------------|-------|-------------------|
| 33,... | Ouput N | Enable/Disable remote control | C W U | DPT 1.003 1bit |
| This communication object is used to diable remote control.If this communication receives a telegram(value=“1”),the Shutter/Blinds remote control is disable. | | | | |

4.2.23 Objects“Presence”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|------------------------------|-------|-------------------|
| 34,... | Ouput N | Presence check(arrive/leave) | C W U | DPT 1.002 1bit |
| This communication object is used to recive presence(arrive) signal or no presence(leave) signal. Only automatic control is activated. If the person leaves the room,this communication object receive a telegram with the value“0” after “Delay(0...3600s) check when leaving “switching auto2””,automaticheating/cooling is activated and the Shutter/Blinds move to setting position according to the parameterised “Position on heating = “1” and sun = “1/0”” or “Position on cooling = “1” and sun = “0/1””. If the person enters into the room, this communication object receive a telegram(value=“1”) after “Delay(0...3600s) check when arriving “switching to auto1””,automaticheating/cooling is deactivated,automatic sun is activated and the shutter/blind move to setting position “Moving for sun= “0/1””. | | | | |

4.2.24 Objects“heating”

| NO. | Object name | Function | Flags | Data type |
|--|------------------|----------|-------|-------------------|
| 35,... | Ouput N Auto2 | Heating | C W U | DPT 1.002 1bit |
| This communication object is used to recive “Heating” signal. Only automatic control is activated ,if This communication object receives a telegram (value=“1”), “Heating” is valid. | | | | |

4.2.25 Objects“cooling”

| NO. | Object name | Function | Flags | Data type |
|---|-------------|----------|-------|-------------------|
| 36,... | Ouput N | Cooling | C W U | DPT 1.002 1bit |
| This communication object is used to recive “Cooling” signal Only automatic | | | | |

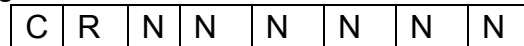
control is activated ,if This communication object receives a telegram with the value “1”, “Cooling” is valid.

4.2.26 Objects“Call scene number”

| NO. | Object name | Function | Flags | Data type |
|--------|-------------|-------------------|-------|---------------------|
| 37,... | Ouput N | Call scene number | C W U | DPT 18.001 1byte |

This communication object is used to control the scene. The scene control see following explain:

Telegram value:



C: 0-Call scene

1-Store scene(If scene assigned and the scene is the current switch state)

R: Reserved

N: Scene NO.(bin:000000...111111=NO.1...64)

e.g: Hexadecimal

00h-----call scene 1 (If scene assigned)

01h-----call scene 2 (If scene assigned)

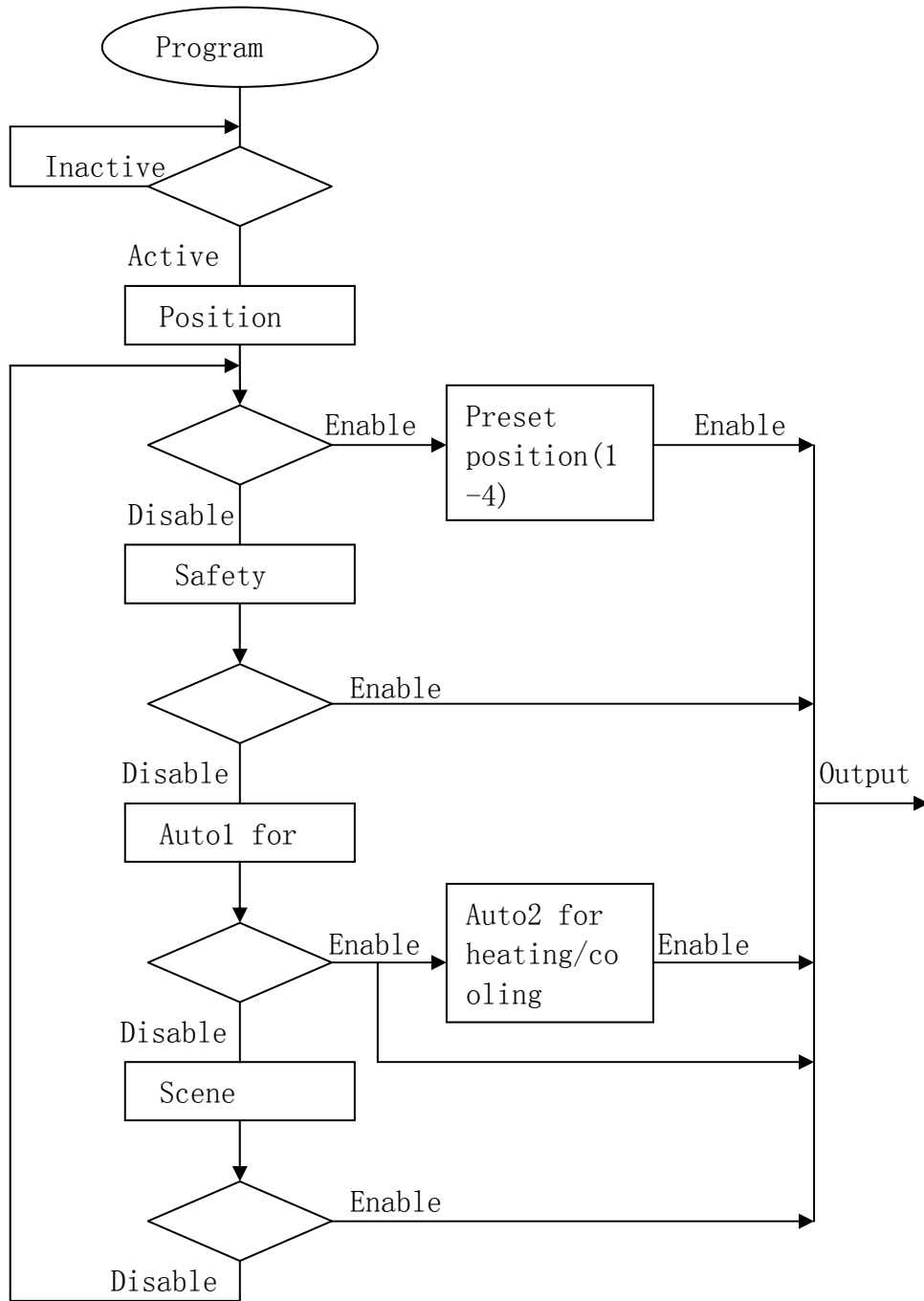
3Fh-----call scene 64 (If scene assigned)

80h-----store scene 1 (If scene assigned)

81h-----store scene 2 (If scene assigned)

BFh-----store scene 64 (If scene assigned)

5- Program functions diagram



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