# CONTROL OF BLIND CHANNELS

## USER MANUAL

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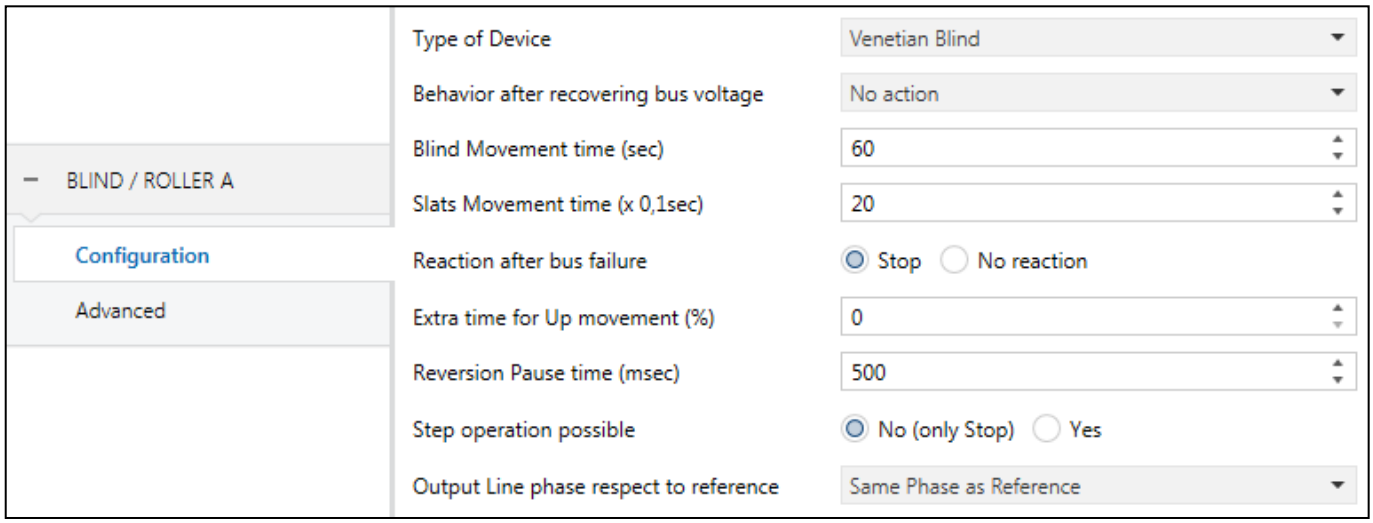
## INTRODUCTION

- The following User Manual describes the operation and configuration of the Blind channels that incorporate different DINUY Actuators
- These channels can control the motion of Roller Blinds or Awnings, Venetian Blinds (blinds or blinds with slats) and Ventilation Gates.
- In the Actuators with this functionality, the control of the blind is carried out by means of two consecutive relays. The first relay of each channel will send the raising telegrams, whereas the second channel will send the lowering ones.

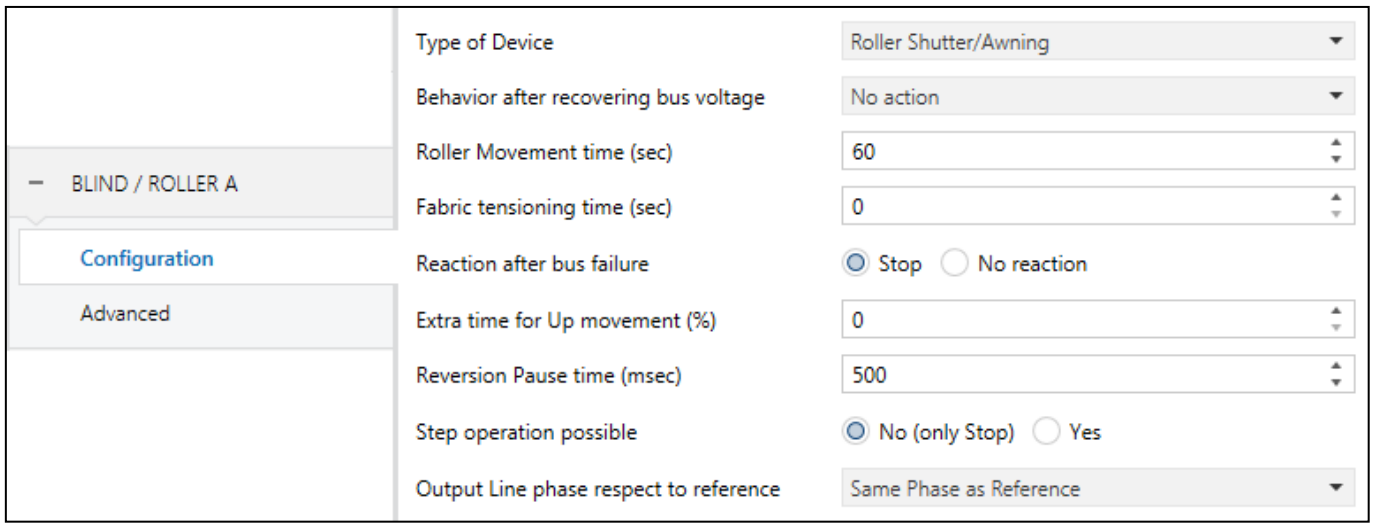
## CONFIGURATION

- Each Blind channel can be configured as:

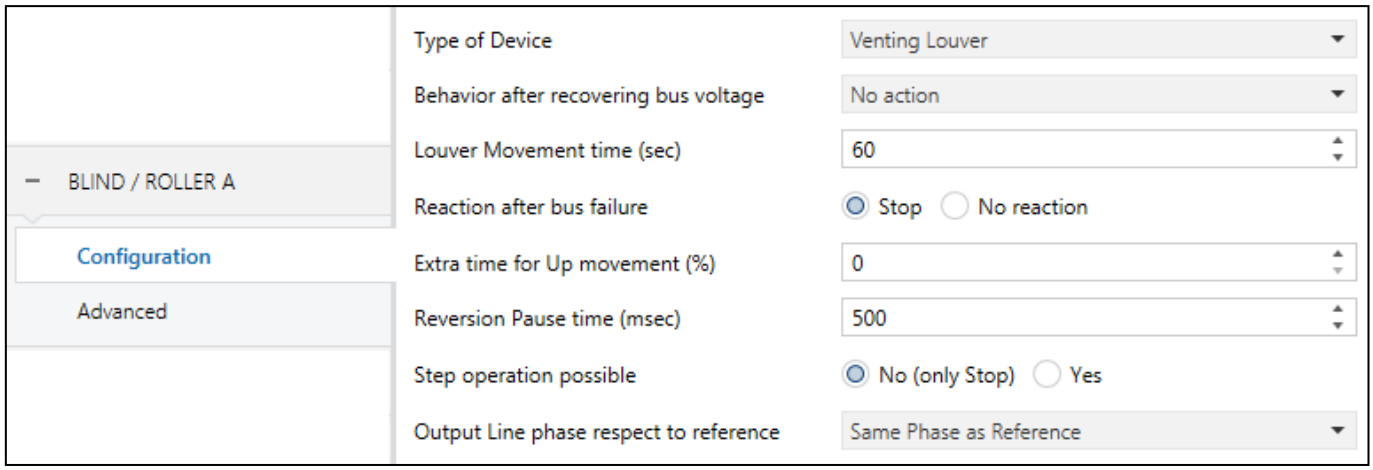
  · Venetian Blind (blind with or without slats):




  · Roller Shutter/Awning:



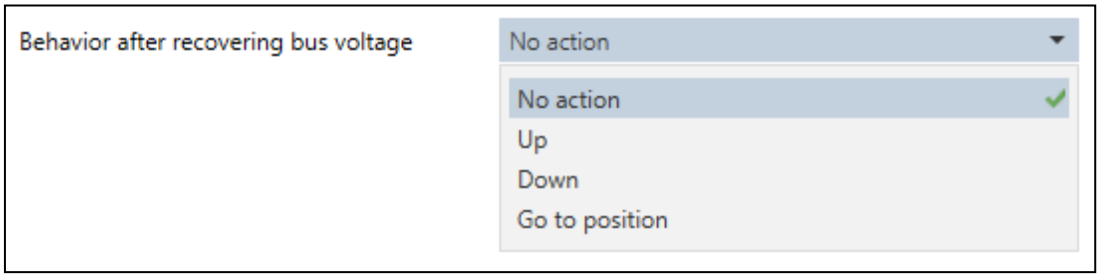
· Venting Louver:




## Configuration Parameters

- Regardless of the parameterization, the following parameters are available:

· **Behavior after recovering bus voltage**: action to be performed when the KNX bus voltage or mains supply is restored.

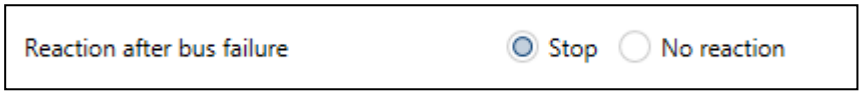



- **No action:** the blind does nothing, it stays at the same position it was in before the supply fault. Nevertheless, after the mains is reestablished, regardless of the current position of the blind, the Actuator considers that it is completely lowered (position = 100%) and it will be necessary to make a complete move up to carry out correctly the next positioning.
- **Up:** the blind is moved-up.
- **Down:** the blind is moved-down.
- **Go to position:** the blind is moved completely up and then is moved to the set position.

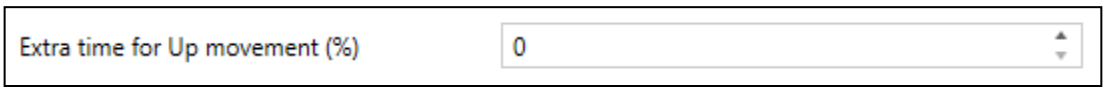
· **Blind/Roller/Louver Movement time (sec)**: movement time of the blind from upper position (0%) to lower (100%), and vice versa. This time can be set between 1 and 3600 seconds.

· **Slats Movement time (only Venetian Blind)**: movement time of the slats from fully open position (0%) to fully closed one (100%), and vice versa. This time can be set between 2 and 600 tenths of a second. The number of steps of the slats will be calculated by dividing this time by the length of the step, sets in the general parameters.

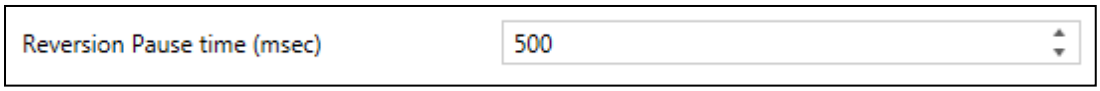
· **Reaction after bus failure**: behavior of the blind after detecting a fault on the KNX bus.



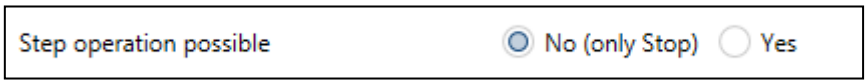

· **Extra time for Up movement (%)**: time added to the up movement to complete the raising course. Due to its weight, the length of the raising course will be higher than the lowering course.



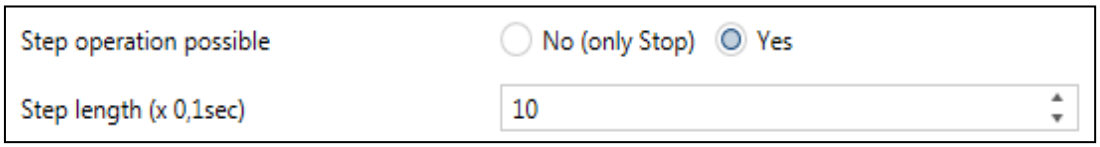
- **Reversion Pause time (msec)**: time delay to avoid any damage on the engine due to an instant direction change when the blind was already in movement. The Actuator waits if it was in movement and a telegram to change the direction is received.



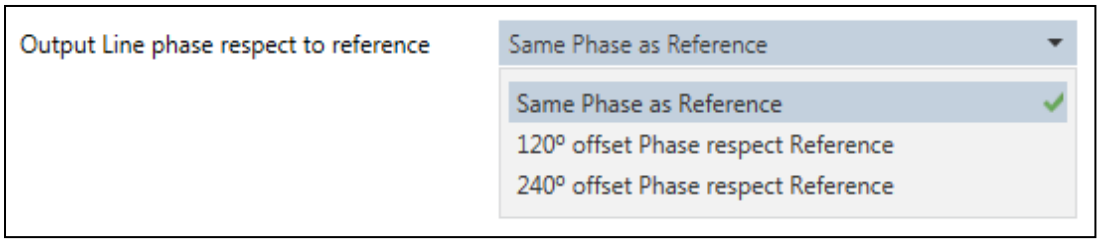

- **Step operation possible**: sets if the Step action is allowed, or just Stopping one, through the object "[BL] Stop / Step Up / Down".

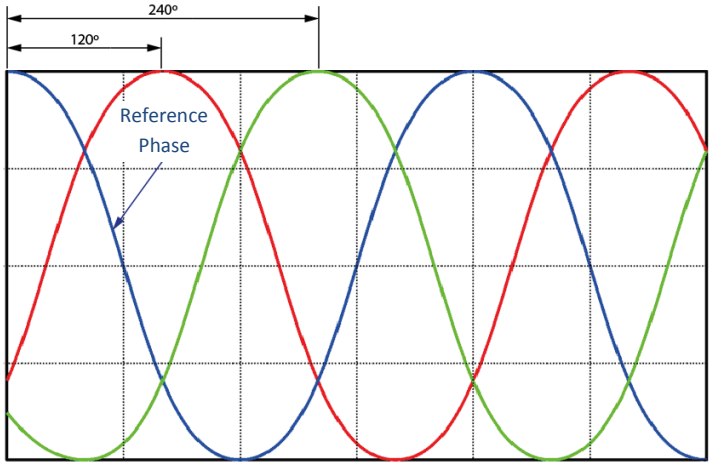



- If the Step action is allowed, it will be necessary to set its length:




- **Output Line phase respect to reference**: allows the "zero-crossing-point" switching control of the relay. This type of control makes it possible to switch high loads without risk of damaging the relay due to the high current peaks of the load at starting. The Reference Phase is that with which the Actuator is supply in L and N.



## Configuration Communication Objects

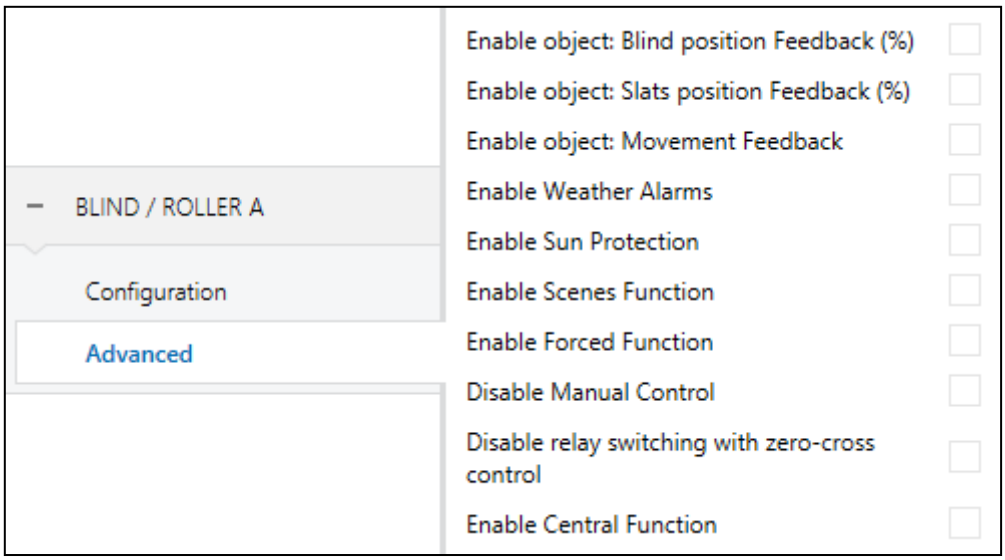
- Likewise, the following communication objects will be available by default:

| Number | Name | Object Function | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|
| 244 | [BL A] Blind Move Up/Down | 0 = Up, 1 = Down | 1 bit | C | - | W | - | - | up/down | Low |
| 245 | [BL A] Blind Stop / Step Up/Down | 0 = Step Up, 1 = Step Down | 1 bit | C | - | W | - | - | step | Low |
| 254 | [BL A] Blind position Input | 0% = Open, 100% = Closed | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |
| 255 | [BL A] Slats position Input | 0% = Open, 100% = Closed | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |

| Number | Name | Object Function | Description |
|---|---|---|---|
| 244 | [BL] Blind Move Up/Down | 0 = Up, 1 = Down | 1-Bit object for Move_Up (0) and Move_Down (1) telegrams |
| 245 | [BL] Blind Stop / Step Up/Down | 0 = Step Up, 1 = Step Down | When receiving a 0 on this object, the shutter is Stopped or it makes a Step Up (if enabled). If it receives a 1, the shutter is Stopped or it makes a Step Down (if enabled) |
| 254 | [BL] Blind position Input | 0% = Open, 100% = Closed | La persiana se mueve a la posición recibida (%) a través de este valor de 1 byte |
| 255 | [BL] Slats position Input | 0% = Open, 100% = Closed | The slats are moved to the received position (%) through this 1-byte value |

## Advanced Parameters

- Moreover, advanced parameters and functions are also available:

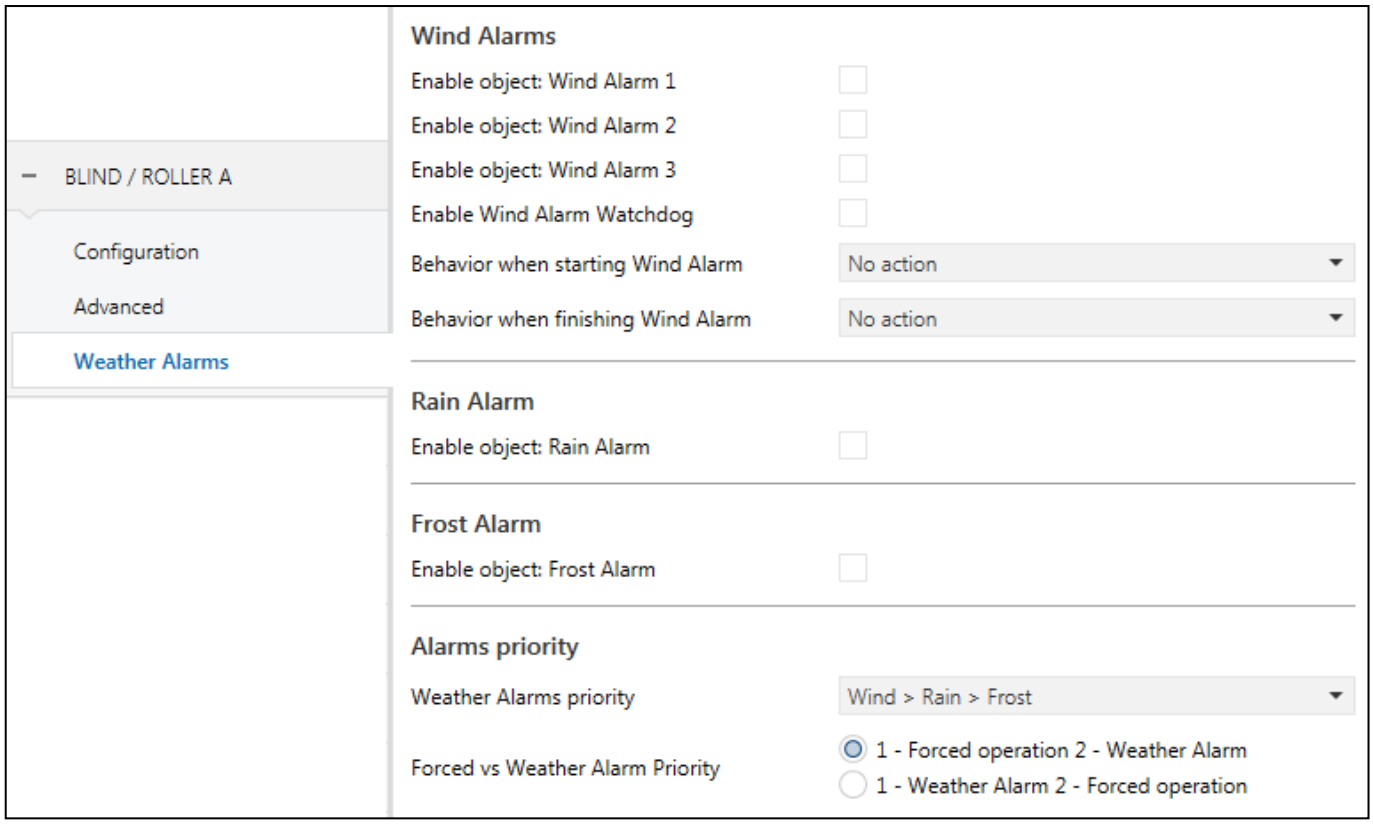



- **Enable object: Blind/Roller/Louver position Feedback (%)**: allows to know the position of the Blind through the 1-byte object, "[BL] Blind / Roller / Louver position Feedback". By enabling this object, it will be necessary to set the period for cyclical sending: "Time to send "Blind / Roller / Louver position Feedback" (sec)". This time can be set between 60 and 3600 seconds.

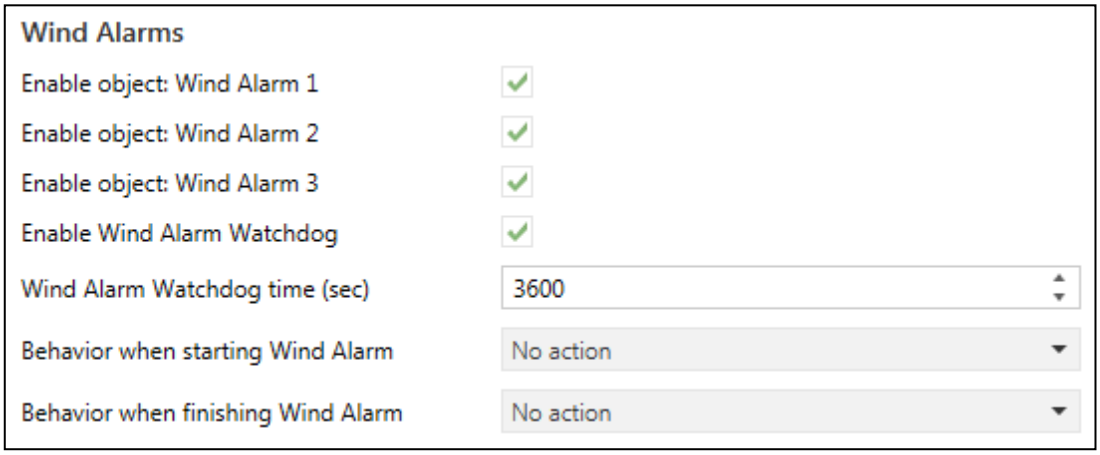

- **Enable object: Slats position Feedback (only Venetian Blinds)**: allows to know the position of the Slats through the 1-byte object, "[BL] Slats position Feedback". By enabling this object, it will be necessary to set the period for cyclical sending: "Time to send "Slats position Feedback" (sec)". This time can be set between 60 and 3600 seconds.


- **Enable object: Movement Feedback**: allows to know the direction of movement of the blind through the 1-bit object, "[BL] Movement Feedback".

- **Enable Weather Alarms**: enables Wind, Rain and Frost alarms. It must be considered that the alarms prevail over the rest of the functions.

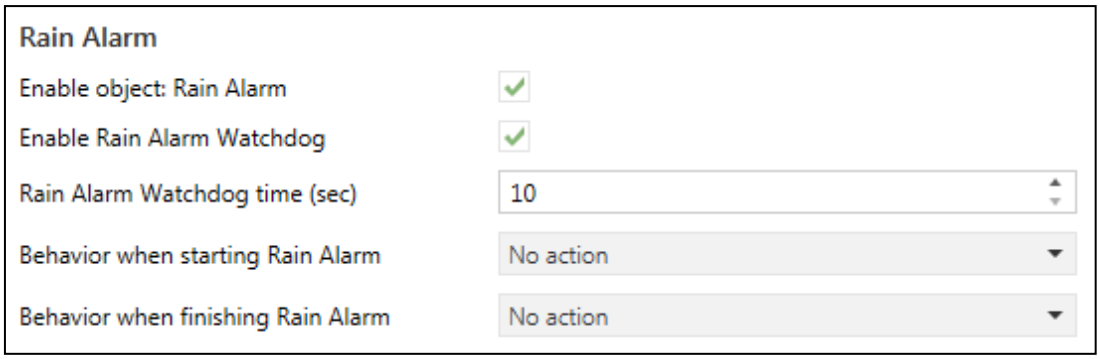



  - **Wind Alarms**: up to three Wind Alarm objects can be enabled.



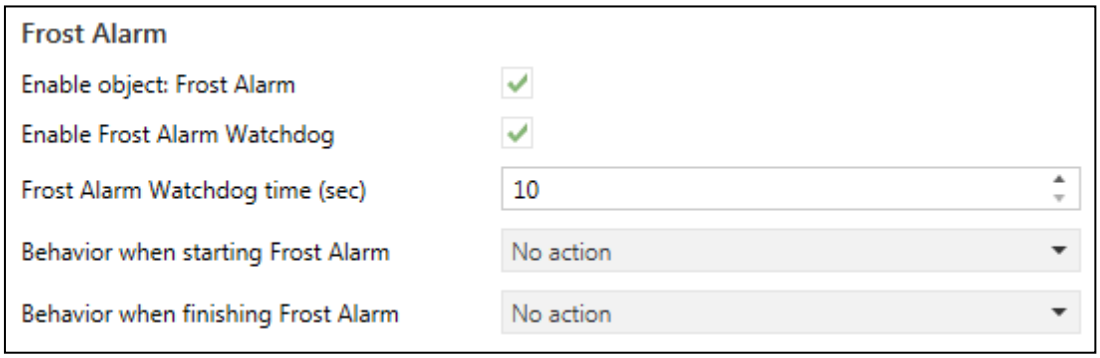

    - **Enable Wind Alarm Watchdog**: allows to enable the vigilance of the wind alarm and its period time.
    - **Wind Alarm Watchdog time (sec)**: period how often the alarm status is monitored.
    - **Behavior when starting Wind Alarm**: behavior of the shutter when the alarm starts in one of the 3 objects. The different options are: No action, Up, Down or Stop.
    - **Behavior when finishing Wind Alarm**: behavior of the shutter when the alarm finishes in one of the 3 objects. The different options are: No action, Up, Down, Stop or Go to last position.

- **Rain Alarm**: I Rain Alarm can be enabled.



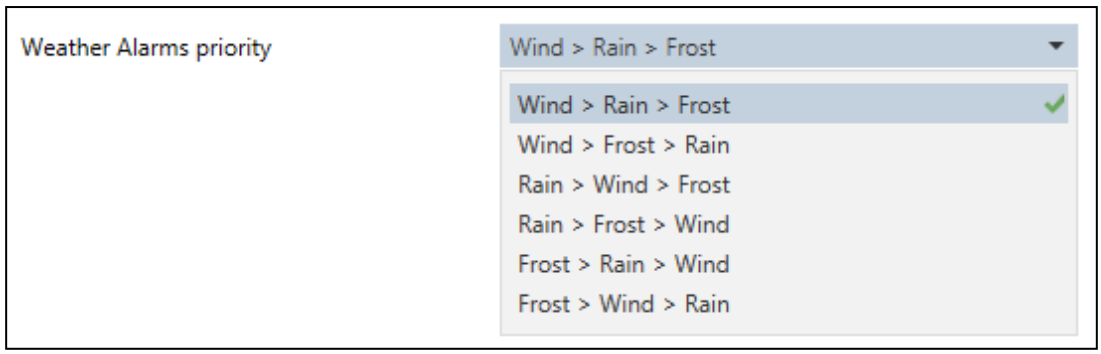

  - **Enable Rain Alarm Watchdog**: allows to enable the vigilance of the rain alarm and its period time.
  - **Rain Alarm Watchdog time (sec)**: period how often the alarm status is monitored.
  - **Behavior when starting Rain Alarm**: behavior of the shutter when the alarm starts in one of the 3 objects. The different options are: No action, Up, Down or Stop.
  - **Behavior when finishing Rain Alarm**: behavior of the shutter when the alarm finishes in one of the 3 objects. The different options are: No action, Up, Down, Stop or Go to last position.

- **Frost Alarm**: I Frost Alarm can be enabled.



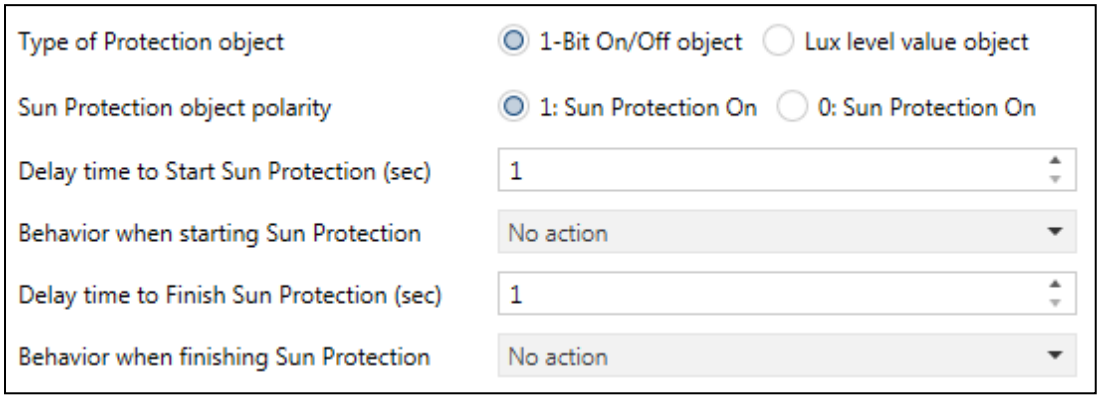

  - **Enable Frost Alarm Watchdog**: allows to enable the vigilance of the frost alarm and its period time.
  - **Frost Alarm Watchdog time (sec)**: period how often the alarm status is monitored.
  - **Behavior when starting Frost Alarm**: behavior of the shutter when the alarm starts in one of the 3 objects. The different options are: No action, Up, Down or Stop.
  - **Behavior when finishing Frost Alarm**: behavior of the shutter when the alarm finishes in one of the 3 objects. The different options are: No action, Up, Down, Stop or Go to last position.

- **Alarms Priority**: sets the priority level of the different alarms.
  - **Weather Alarms priority**: establishes the hierarchy of priorities between the different alarms.

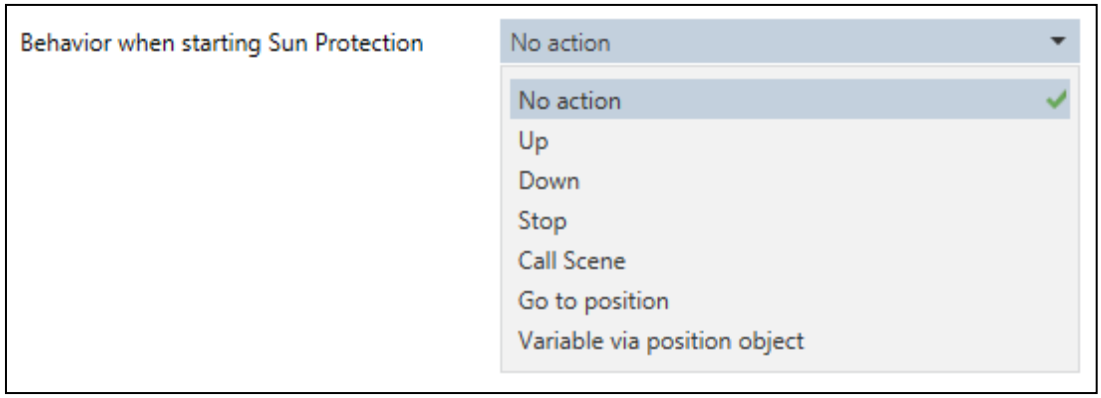



  - **Forced vs Weather Alarm Priority**: sets the priority between weather alarms and forced action.


- **Enable Sun Protection**: function that allows the protection of the indoor from the Sun.

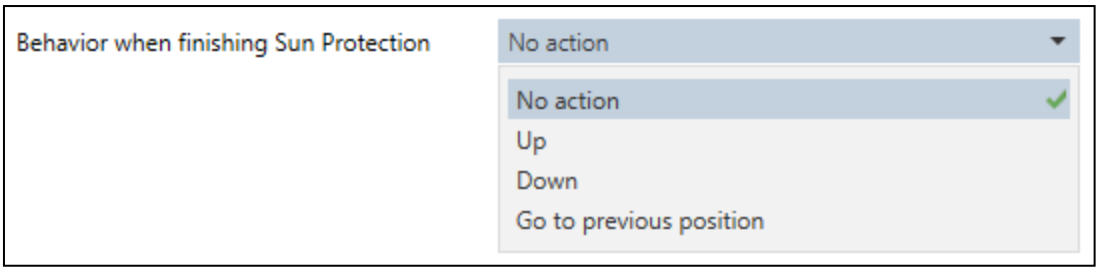



  - **Type of Protection object**: allows to set the protection based on a 1-Bit object or the Lux value received from a brightness sensor.
    - **1-Bit On/Off object**: enables a 1-Bit input object for the sun protection function, "[BL] Sun Protection Input". In this case, it is necessary to set:
      - Sun Protection object polarity: protection triggered by 0 or 1.
      - Delay time to Start Sun Protection: 1 ~ 3600 seconds.
      - Behavior when starting sun protection:

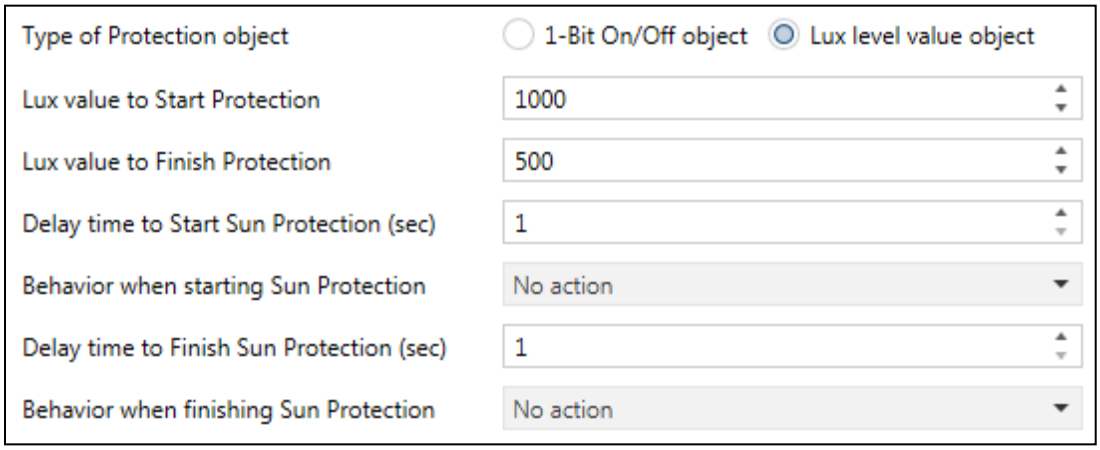


· Delay time to Start Sun Protection: 1 ~ 3600 seconds.

· Behavior when finishing sun protection:




- **Lux level value object**: enables a 2-byte input object for sun protection function, "[BL] Lux level Input". In this case, it is necessary to set:

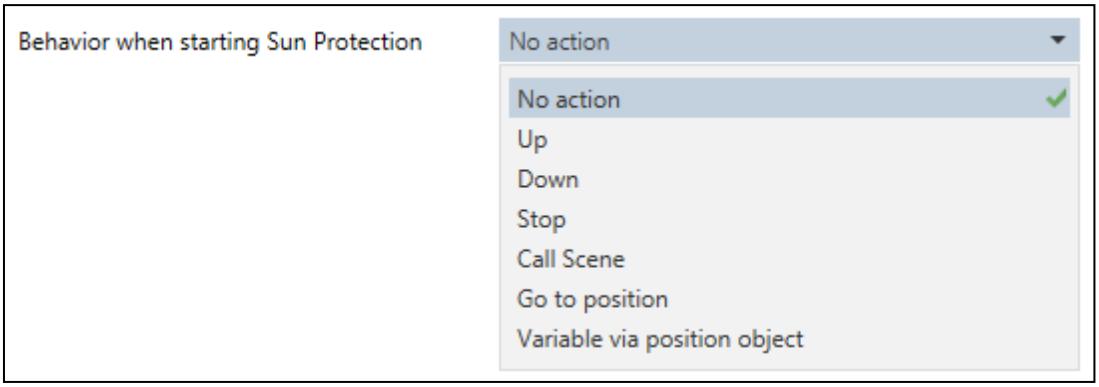



· Lux value to Start Protection: 1 ~ 3600 Lux.

· Lux value to Finish Protection: 1 ~ 3600 Lux.

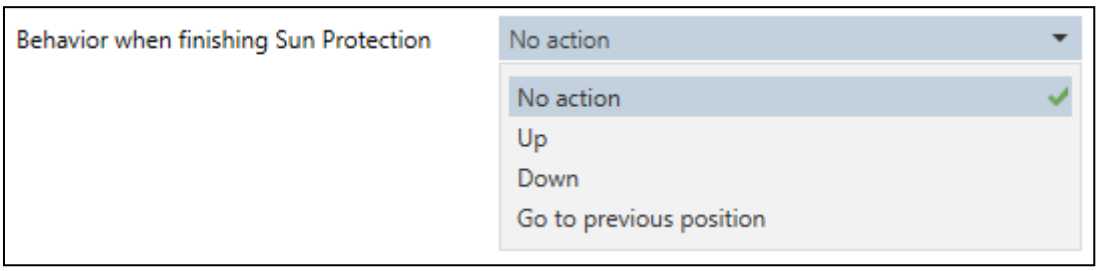
· Delay time to Start Sun Protection (sec): 1 ~ 3600 seconds.

· Behavior when starting Sun Protection:

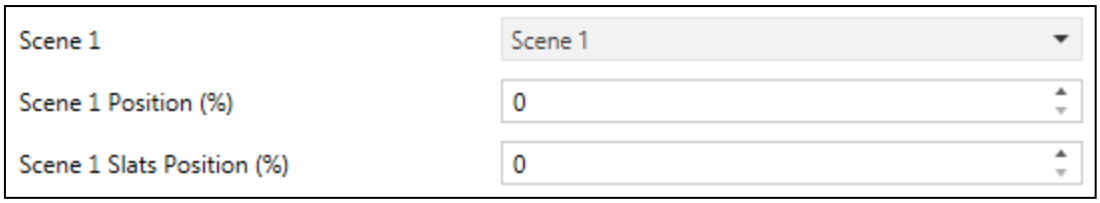



· Delay time to Finish Sun Protection (sec): 1 ~ 3600 seconds.

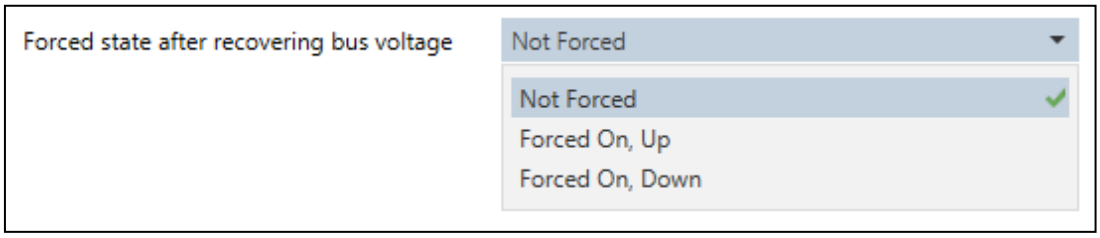
· Behavior when finishing Sun Protection:



- **Enable Scenes Function**: up to 8 different scenarios can be preset. In each Scene the position of the Blind and the position of the Slats can be stablished.



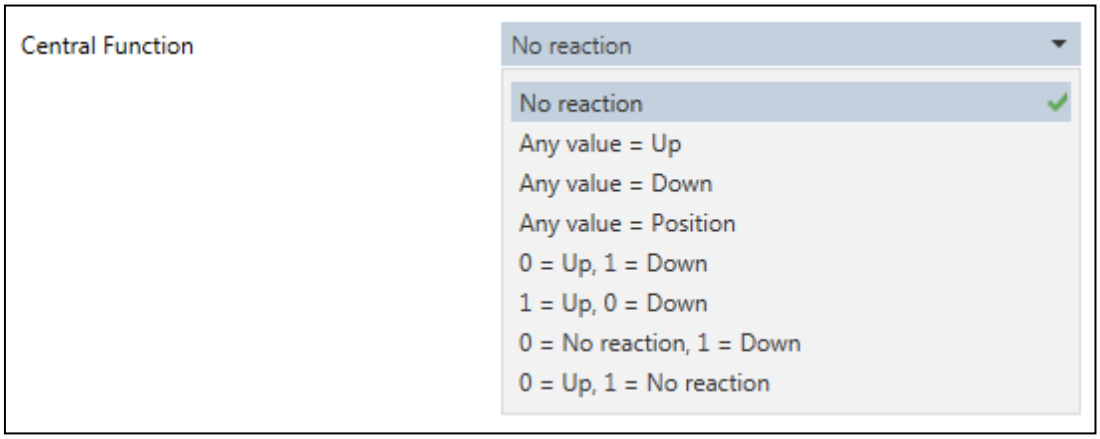

- **Enable Forced Function**: its priority is higher than the standard operating orders and its priority, or not, over the alarms, can be defined in the Alarms menu.




- **Disable Manual Control**: enables, or not, manual control of the Actuator from the front keypad of the device.

- **Disable realy switching with zero-cross control**: in the event of controlling slats, it will be necessary to activate this parameter in order to achieve optimal results in their movement.

- **Enable Central Function**: sets the behavior of the blind in case of receiving a telegram from the Central Function. The control object for channels configured as Blind is "[BL] Blind position Input Central Function" and "[BL] Slats position Input Central Function", depending on the number of objects enabled for centralized control (1 or 2).




  - No reaction: the channel does not respond to centralized commands.
  - Any value = Up: any value received in the object "[Central] Move Blind" causes a rising of the blind connected to this channel.
  - Any value = Down: any value received in the object "[Central] Move Blind" causes a lowering of the blind connected to this channel.
  - Any value = Position: any value received in the object "[Central] Move Blind" causes a movement of the blind connected to this channel to the set value.
  - 0 = Up, 1 = Down: a 0 received in the object "[Central] Move Blind" causes a rising of the blind connected to this channel, and an 1 causes a lowering.
  - 1 = Up, 0 = Down: an 1 received in the object "[Central] Move Blind" causes a rising of the blind connected to this channel, and a 0 causes a lowering.

- 0 = No reaction, 1 = Down: a 0 received in the object "[Central] Move Blind" will not cause any action on the blind connected to this channel, and an 1 will cause a complete lowering.
- 0 = Up, 1 = No reaction: an 1 received in the object "[Central] Move Blind" will not cause any action on the blind connected to this channel, and an 1 will cause a complete rising.

## Advanced Communication Objects

| Number | Name | Object Function | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|
| 246 | [BL A] Forced Input | 2 Bits control | 2 bit | C | - | W | - | - | switch control | Low |
| 247 | [BL A] Wind Alarm 1 | 1 = Alarm, 0 = No Alarm | 1 bit | C | - | W | - | - | alarm | Low |
| 248 | [BL A] Wind Alarm 2 | 1 = Alarm, 0 = No Alarm | 1 bit | C | - | W | - | - | alarm | Low |
| 249 | [BL A] Wind Alarm 3 | 1 = Alarm, 0 = No Alarm | 1 bit | C | - | W | - | - | alarm | Low |
| 250 | [BL A] Rain Alarm | 1 = Alarm, 0 = No Alarm | 1 bit | C | - | W | - | - | alarm | Low |
| 251 | [BL A] Frost Alarm | 1 = Alarm, 0 = No Alarm | 1 bit | C | - | W | - | - | alarm | Low |
| 252 | [BL A] Scene Input | Scene Control | 1 byte | C | - | W | - | - | scene control | Low |
| 253 | [BL A] Movement Feedback | 0 = Up, 1 = Down | 1 bit | C | - | - | T | - | up/down | Low |
| 256 | [BL A] Blind position Feedback | 0% = Open, 100% = Closed | 1 byte | C | - | - | T | - | percentage (0..100%) | Low |
| 257 | [BL A] Slats position Feedback | 0% = Open, 100% = Closed | 1 byte | C | - | - | T | - | percentage (0..100%) | Low |
| 258 | [BL A] Sun Protection Input | 1 = On, 0 = Off | 1 bit | C | - | W | - | - | switch | Low |
| 259 | [BL A] Sun Protection position Input | 0% = Open, 100% = Closed | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |
| 804 | [BL A] Blind position Input Central Function | 0% = Open, 100% = Closed | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |
| 805 | [BL A] Slats position Input Central function | 0% = Open, 100% = Closed | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |

| Number | Name | Function | Description |
|---|---|---|---|
| 246 | [BL] Forced Input | 2 Bits control | Forcing order, with higher priority than standard operation. One of the bits indicates if the Forcing is active (yes / no) and with the second bit it is indicated if the Forcing is On or Off |
| 247..249 | [BL] Wind Alarm 1..3 | 1 = Alarm, 0 = No Alarm | Wind alarm input objects |
| 250 | [BL] Rain Alarm | 1 = Alarm, 0 = No Alarm | Rain alarm input object |
| 251 | [BL] Frost Alarm | 1 = Alarm, 0 = No Alarm | Frost alarm input object |
| 252 | [BL] Scene Input | Scene Control | 1-Byte object for scene control |
| 253 | [BL] Movement Feedback | 0 = Up, 1 = Down | Info object about the movement of the blind |
| 256 | [BL] Blind position Feedback | 0% = Open, 100% = Closed | Info object about blind position |
| 257 | [BL] Slats position Feedback | 0% = Open, 100% = Closed | Info object about slats position |
| 258 | [BL] Sun Protection Input | 1 = On, 0 = Off | Sun protection input object |
| 259 | [BL] Sun Protection position Input | 0% = Open, 100% = Closed | Input object that indicates the position to which the blind should move if the sun protection is triggered |
| 804 | [BL] Blind position Input Central Function | 0% = Open, 100% = Closed | 1-Byte object for controlling the position of the blind with the central function |
| 805 | [Out] Slats position Input Central Function | 0% = Open, 100% = Closed | 1-Byte object for controlling the position of the slats with the central function |