

J4 io

**Notice installateur** 

Installationsanleitung

Guida d'installazione

**Installer Guide** 



# **10. DATI TECNICI**

Frequenza radio	868-870 MHz io-homecontrol® bidirezionale Tri-band		
Alimentazione	230 V ~ 50 Hz		
Temperatura di utilizzo	da -20°C a +70°C		
Grado di protezione (motore J4 io)	IP 54		
Grado di protezione (ricevitore J4 io)	IP 67		
Numero massimo di trasmettitori e di sensori associati	9		
Capacità <b>massima</b> della gabbia fine corsa (in giri)	200		
Capacità <b>regolata in fabbrica</b> della gabbia fine corsa (in giri)	120		
Livello di sicurezza (motore J4 io)	Classe I		
Livello di sicurezza (ricevitore J4 io)	Classe II		
Coppia (Nm)	6	10	18
Lunghezza motore (mm)	306	321	341
Livello di potenza acustica	LpA ≤ 70 dB(A)		



Per il J418, la coppia massima ammessa per una estremità di asse motore è di 12 Nm.

## **Tempo termico**

I motori J4 io sono protetti attraverso un'interruzione termica in caso di surriscaldamento causato da un utilizzo **continuo** superiore a 6 minuti.

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## 1. INTRODUCTION

The J4 io actuator is designed to drive the external venetian blind, types 1 & 2.

#### What is io-homecontrol®?

The J4 io uses io-homecontrol®, the new universal and secure wireless communication protocol, shared by the major manufacturers in the world of home automation. io-homecontrol® enables all comfort and security equipment to intercommunicate and be actuated via a single control point.

The flexibility and perfect compatibility of the io-homecontrol® system provides support for you as your needs evolve. You can start by automating roller shutters, external venetian blinds and the front door, then equip the outside awnings, the gate and garage door or garden lighting with the io-homecontrol® system.

These scalable items of equipment are still compatible with the existing system, thanks to io-homecontrol® technology, which ensures their interoperability.

For further information please visit the website www.io-homecontrol.com..



io-homecontrol® provides advanced and secure radio technology that is easy to install. io-homecontrol® labelled products communicate with each other, improving comfort, security and energy savings.

www.io-homecontrol.com

## 2.1. Safety and responsibility

- The motor, torque and operating time must be adjusted according to the complete installation.
- Only Somfy original accessories should be used (adapters, brackets, connectors, power cable, etc.).
- Fitting, testing, commissioning and repair of the installation must only be carried out by qualified personnel.
- Correct operation of the installation is only guaranteed if the installation and assembly have been carried out according to best practices, if the electrical supply is adequate and if maintenance is carried out.
- The installer must also comply with the current standards and legislation in the country in which the product is being installed, and inform his customers of the usage and maintenance conditions relevant to the product.
- The moving parts of the motors must be protected if operating at less than 2.50 m from the ground or another surface.
- The installation must not be used if it shows any signs of damage (for example wear, damaged cables and springs or ill adjusted end limits).
- The installation must be protected from all unauthorised use. Take preventive measures to avoid any spurious operation.
- Children must be supervised to ensure they do not play with the equipment. Keep remote controls out of the reach of children.
- This equipment is not intended for use by persons (including children) with impaired physical or mental capacities or those without the required knowledge or experience unless supervised by a person responsible for their safety.
- Disconnect all the connection cables from the power supply before operating on the installation.
- Do not use the installation if operations (window cleaning for example) are being carried out nearby.
- Observe the assembly and use guidelines, in particular the safety instructions from the manufacturer of the device to be used , since incorrect installation can lead to severe injury.
- Permanently mounted controls must be mounted visibly.
- The power supply cables of the motor must only be replaced by a cable of the same type, delivered by the manufacturer of the motor.
- If the mushroom is used to stop the blind in the upper end limit position, the installer must check that the mushroom is in place when the complete installation is used for the first time.
- To remove the motor power cable: Please use the «J4 cable dismantling tool» ref: 9017811



Subject to technical modifications.

## 2.2. Specific safety advice

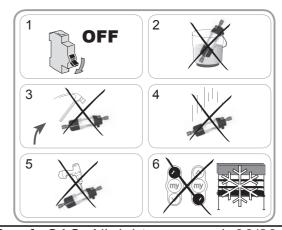


In addition to the safety instructions described in this guide, be sure to also observe the instructions set out in the attached document «Safety instructions to follow and keep».

1) Switch off the mains supply for the external venetian blind before performing any service operation in the vicinity.

To avoid damaging the product:

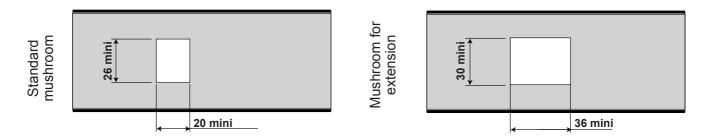
- 2) Never immerse it in liquid!
- 3) Avoid impacts!
- 4) Do not drop it!
- 5) Never drill holes in it!
- 6) Avoid moving the blind if ice has formed on it.



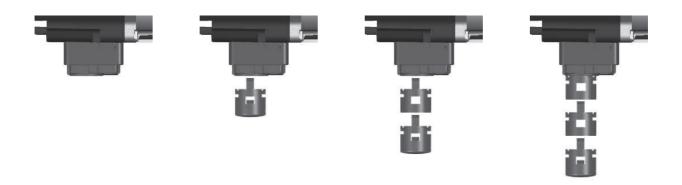


## Cutaway diagram of the head rail

For detailed technical information, refer to the specifications sheets and dedicated interface plans.



Installation with the mushroom extension kit ref: 9017754



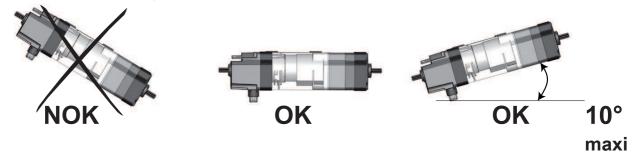
Check that during operation, none of the slats from the blind exert any radial pressure on the mushroom.



If the EVB is equipped with a z-shaped slat, it will be necessary to adjust the upper end limit for the motor. In this case, the mushroom is used to ensure the safety of the EVB.

#### **Motor tilt**

The J4 io motor has been designed to operate horizontally:



# 3. COMPATIBILITY

The J4 io motor has a degraded performance with EVB having operation position kinematic.

#### Operation position kinematics:

When the blind is lowered, the slats are tilted to a specific angle until the operating position. This angle is obtained either by a specific blind mechanism or by tilters.

## 4.1 57 X 51 mm or 58 x 56 mm head rail, open below



 Screw the 2 adaptors (1) using 2 M3x8 bolts (2) on the motor shaft.

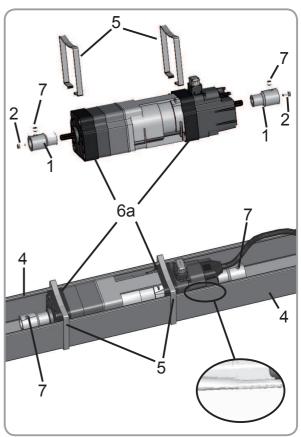
Tightening torque = 1,35 N.m +/- 20%



Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- If necessary, compress the edge of the head rail (4) into the motor zone.
- Insert the motor into the head rail (4).
- Using the clips (5), attach the motor in the head rail (4) above the acoustic tapes (6a).
- The shaft can be fitted into the adapter using a headless screw (7).

Tightening torque = 2 N.m maximum



# $\boxed{\bigcirc}$

## 4.2 58 x 56 mm head rail, open above

## Installation with external clips

 Screw the 2 adaptors (1) using 2 M3x8 bolts (2) on the motor shaft.

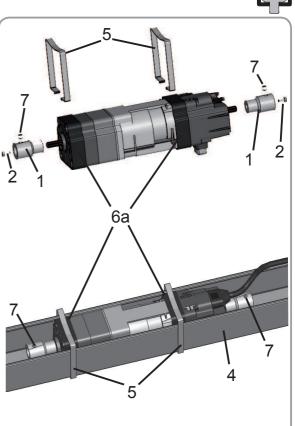
Tightening torque = 1,35 N.m +/- 20%



Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- Insert the motor into the head rail (4).
- Using the clips (5), attach the motor in the head rail (4) above the acoustic tapes (6a).
- The shaft can be fitted into the adapter using a headless screw (7).

Tightening torque = 2 N.m maximum



#### 4.3 57 x 51 mm head rail, open above

#### Installation with external clips

 Screw the 2 adaptors (1) using 2 M3x8 bolts (2) on the motor shaft.

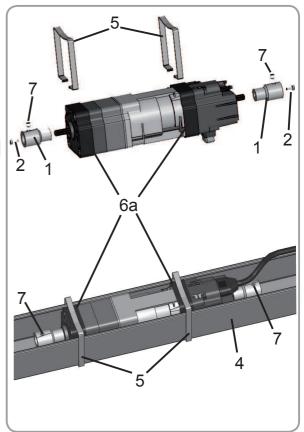
Tightening torque = 1,35 N.m +/- 20%



Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- Insert the motor into the head rail (4).
- Using the clips (5), attach the motor in the head rail (4) above the acoustic tapes (6a).
- The shaft can be fitted into the adapter using a headless screw (7)

Tightening torque = 2 N.m maximum



#### Installation with internal clips

 Screw the 2 adaptors (1) using 2 M3x8 bolts (2) on the motor shaft.

Tightening torque = 1,35 N.m +/- 20%



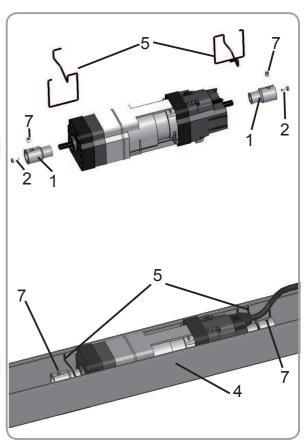
Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- Insert the motor into the head rail (4).
- Using the clips (5), attach the motor in the head rail (4).
- The shaft can be fitted into the adapter using a headless screw (7).

#### Tightening torque = 2 N.m maximum



The internal clips cannot be used with J418 motors (J4 motors with a torque of 18 Nm).



## 4.4 78 x 67 mm head rail, open below

# Installation with J406/J410 motors (torque of 6 or 10 Nm)

 Screw the 2 adaptors (1) using 2 M3 x 8 bolts (2) on the motor shaft.

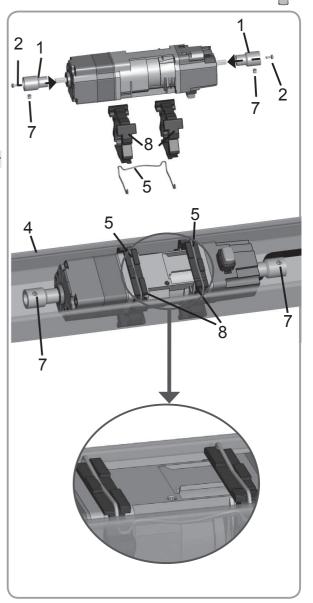
Tightening torque = 1,35 N.m +/- 20%



Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- Fit the two head rail adaptors (8) on the motor.
- Insert the motor into the head rail (4).
- Using the clip (5), attach the motor in the head rail (4).
- The shaft can be fitted into the adapter using a headless screw (7).

Tightening torque = 2 N.m maximum



#### Assembly with J418 motor (torque = 18 N.m)

 Screw the 2 adaptors (1) using 2 M3 x 8 bolts (2) on the motor shaft.

Tightening torque = 1,35 N.m +/- 20%

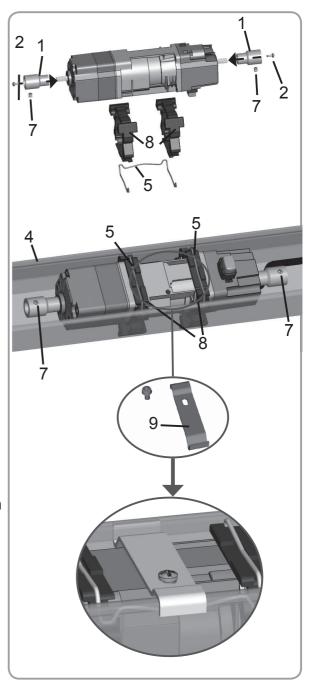


Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

- Fit the two head rail adaptors (8) on the motor.
- Insert the motor into the head rail (4).
- Using the clip (5), attach the motor in the head rail (4).
- The shaft can be fitted into the adapter using a headless screw (7).

#### Tightening torque = 2 N.m maximum

- Fit the additional calliper (9) to the head rail (4) + motor assembly.
- Screw the calliper (9) to the motor with an M5 x 10 mm bolt. Tightening torque = 4 N.m maximum.
   The bolt must be compressed against the calliper (9).



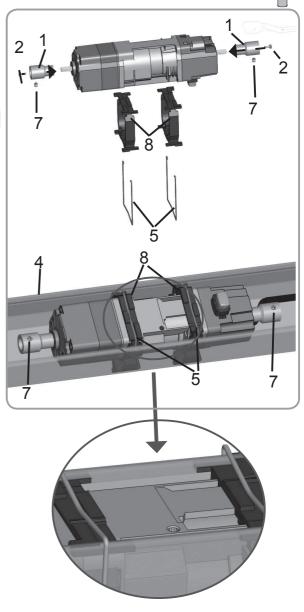
 Screw the 2 adaptors (1) using 2 M3 x 8 bolts (2) on the motor shaft.

Tightening torque = 1,35 N.m +/- 20%



Ensure that the J4 io plate cable does not pass over a rotating part of the motor or mechanism.

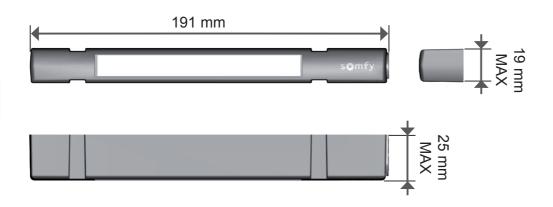
- Fit the two head rail adaptors (8) on the motor.
- Insert the motor into the head rail (4).
- Using the clips (5), attach the motor in the head rail (4).



#### 4.6 J4 io Plate

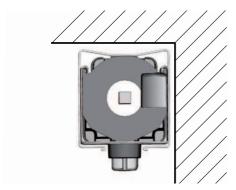


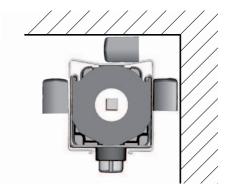
The J4 io plate is supplied connected to the motor; it must be integrated into or on the outside of the head rail. If Somfy sensor is being used, the plate must be fixed to the outside of the head rail.



#### Mounting inside the head rail

#### Mounting outside the head rail





• The mounting of the J4 io plate inside the head rail is compatible with the following head rails and shafts:

HEAD RAIL
57 x 51 mm
58 x 56 mm
78 x 67 mm
65 x 64 mm

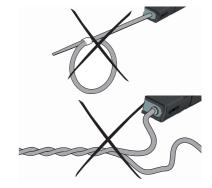
SHAFT
Up to 14 mm hex
Up to 14 mm square
Up to 14 mm diameter

In order to fix the plate inside the head rail, you may use double sided adhesive tape ref: 9016646.

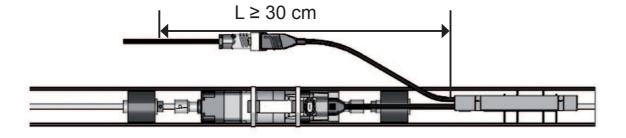


Mounting the plate with double sided adhesive tape is guaranteed to temperatures from -30°C to 70°C. However, to ensure proper adhesion over time, it is essential to stick the tape to a clean surface.

- It is prohibited to create a complete loop on the supply cable of the J4 io plate.
- Do not interlace the supply cable of the J4 io plate with another cable.



To ensure that the radio signal is transmitted correctly, it is necessary to pull the J4 io plate supply cable out of the head rail by at least 30 cm.



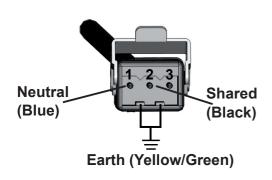
• Cut off the mains power supply.

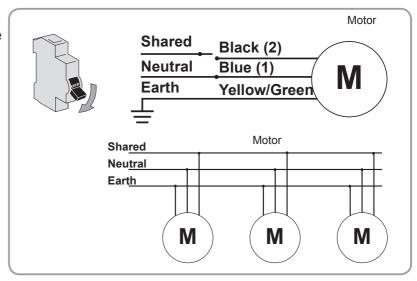


This motor must not be connected to an isolation transformer.

Only the io plate ref: 1811130 may be connected to the J4 io motor.

 Connect the motor and plate assembly according to the information in the table below:





## 6. COMMISSIONING

The guide only describes commissioning using a Situo mobile io VB type Somfy io local control point which provides greater precision when tilting the slats.

For commissioning using any other io control point, refer to the corresponding guide.

## 6.1. Identifying setting steps already completed

Only one motor should be powered at a time. Switch on and follow procedure «a» or «b» depending on the reaction of the blind:

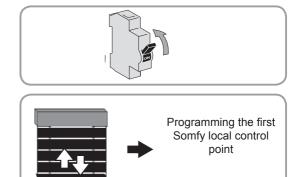
## a) The blind moves briefly

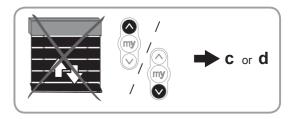
The end limits are set and no Somfy control point has been stored. Go to the section entitled 6.5 «Programming the first Somfy io local control point».

or

#### b) The blind does not move

Press the **Up or Down buttons** and follow procedure «c» or «d» depending on the reaction of the blind:







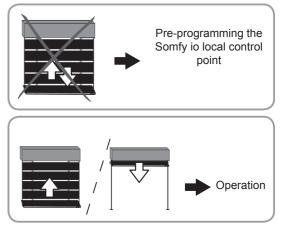
#### c) The blind still does not move

The end limits are not set and no Somfy control point has been stored. Go to the section entitled 6.2 «Pre-programming the Somfy io local control point».

or

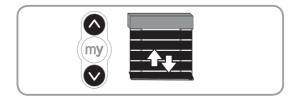
#### d) The blind is fully raised or lowered

The end limits are set and the Somfy control point has been stored. Go to the section entitled «Operation».



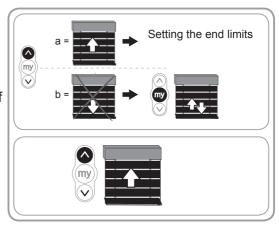
## 6.2. Pre-programming the Somfy io local control point

Press the Up and Down buttons simultaneously.
 The blind moves briefly, the Somfy local io control point is pre-programmed to the motor.



## 6.3. Checking the motor's direction of rotation

- Press the **Up button**:
  - a) If the blind raises, the direction of rotation is correct: go to the section entitled 6.4 "Basic Settings".
  - b) If the blind lowers, the direction of rotation is incorrect: press the **"my" button** until the blind moves, the direction of rotation is modified.
- Press the **Up button** to check the direction of rotation.



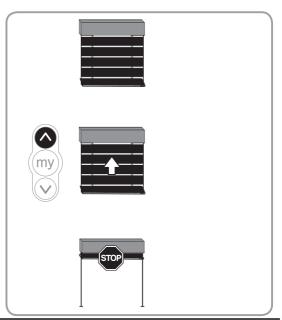
### 6.4. Basic settings

#### 5.4.1. Setting upper and lower end limits



Check that your J4 io actuator has been assembled in the blind in the lowered position with the slats closed.

- Press the Up button for 3 seconds. The blind rotates in the up direction.
- Stop the blind using the stop on the «mushroom» button. The end limits are set. The upper end limit is stored on the mushroom.



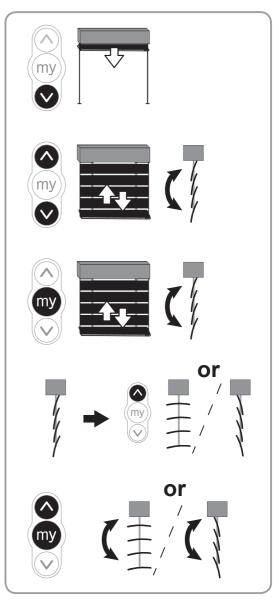


For optimum operation of the J4 io actuator, it is essential to adjust the angular travel.

The angular travel is the total angle necessary for the blind to change from a slats closed position to a slats fully open position.

The slats fully open position is reached when the slats no longer tilt and the blind makes an initial raising movement.

- Press the down button until the lowered position is reached.
- When the blind is in the lowered position, press the Up and Down buttons for 5 seconds: the blind moves briefly.
- Press the "my" button on the control point: the blind moves briefly.
- Move the slats from the slats closed position to the slats fully open position by briefly pressing the Up button on the control point.
- Press the **Up button and "my" buttons** on the control point at the same time, until the blind moves.

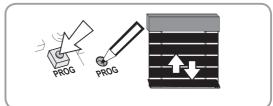


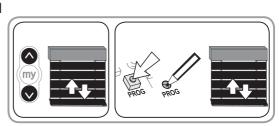
## 6.5. Programming the first Somfy io local control point

**6.5.1. Using a pre-programmed Somfy io local control point (6.2)**Briefly press the **PROG button** on this control point: the blind moves briefly, the control point has been programmed.

#### 6.5.2. After a power cut

- Press the **Up and Down buttons** on the new control point simultaneously until the blind moves.
- Briefly press the PROG button on this control point: the blind moves briefly; the control point has been programmed.





## 6.6. Checking the settings

Check the settings of the upper and lower end limits using the Somfy io local control point.



## 7. OPERATING

# 7.1. Standard operation (the operation below is only possible with the following control points: Situo mobile io VB, Easy Sun io, Composio io and Smoove io)

#### 7.1.1. Favourite position (my)

Besides the upper and lower positions, an intermediate position known as the "favourite position (my)" may be programmed in the motor. The "my" favourite position is pre-set in the factory, and corresponds to the "slats lowered, sun protection" position.

To modify or delete the favourite position (my), see the section entitled "Modifying settings".

To use the favourite (my) position: Briefly press the "my" button: the blind starts to move, then stops and angles the slats in accordance with the angle programmed for the favourite (my) position.

#### 7.1.2. STOP function

The blind is moving.

Briefly press the "my" button: the blind stops automatically.

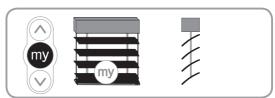
#### 7.1.3. Up and Down buttons

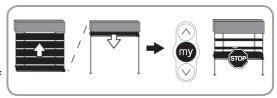
A brief press on the **Up or Down buttons** causes the slats of the blind to turn.

A long press on the **Up or Down buttons** will cause the blind to raise or lower completely.

#### 7.2. Operating with a Somfy sensor or automatic function

Refer to the corresponding manual for the Somfy io sensor.







## 8. MODIFICATION OF THE SETTINGS

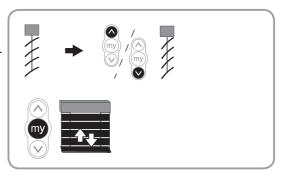
## 7.1. Favourite position (my)

#### 7.1.1. Modifying the favourite position (my)

- Place the blind in the required new favourite position (my).
- Press the "my" button until the blind moves: the new favourite position (my) has been programmed.

#### 7.1.2. Deleting the favourite (my) position

- Press the **"my" button**: the blind will start to move and will stop in the favourite position (my).
- Press the "my" button again until the blind moves: the favourite position (my) has been deleted.





### 8.2. Adding/Deleting Somfy io control points and io sensors

Refer to the corresponding guide.

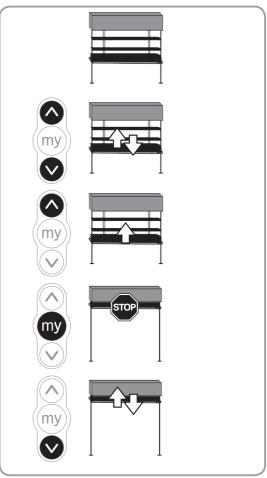
## 8.3. Modifying the end limits

#### 8.3.1. Modifying the upper end limit

- · Place the blind in the intermediate position.
- Press the Up and Down buttons for 5 seconds the blind moves briefly.
- Press the **Up button** (The blind rotates, stops, then continues to turn in the up direction) until the required end of travel is reached (The blind will continue to rise after the control point is pressed for 3 seconds).
- Stop the blind in the required position (If the end of travel has been set on the mushroom, the effective end of travel will be stored slightly below the mushroom).
- · Press the Down button.

The blind will move briefly to confirm storage.

Note: If a new end of travel needs to be set beyond the existing end of travel, the blind will stop itself at the existing end of travel. It will be necessary to press the control point again to go past this existing end of travel.

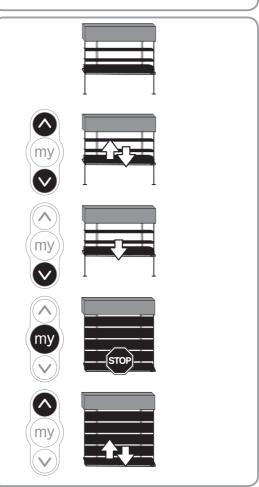


#### 8.3.2. Modifying the lower end limit

- · Place the blind in the intermediate position.
- Press the Up and Down buttons for 5 seconds the blind moves briefly.
- Press the **Down button** (the blind will turn, stop, then continue in the down direction) until the required lower end of travel is reached (the blind will continue to lower when the control point is pressed for 3 seconds).
- · Stop the blind in the required position.
- Press the **Up button**.

The blind will move briefly to confirm storage.

Note: If a new end of travel needs to be set beyond the existing end of travel, the blind will stop itself at the existing end of travel. It will be necessary to press the control point again to go past this existing end of travel.



#### 8.4. Modifying the angular travel

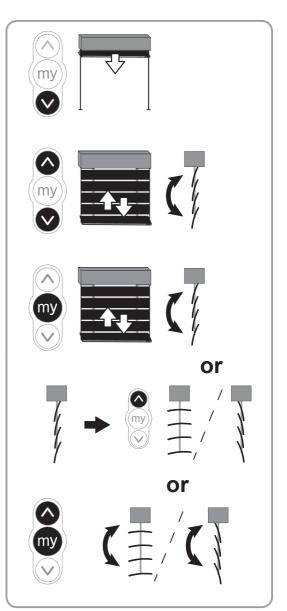


For optimum operation of the J4 io actuator, it is essential to adjust the angular travel.

The angular travel is the total angle necessary for the blind to change from a slats closed position to a slats fully open position.

The slats fully open position is reached when the slats no longer tilt and the blind makes an initial raising movement.

- Press the **down button** until the lowered position is reached.
- When the blind is in the lowered position, press the Up and Down buttons for 5 seconds: the blind moves briefly.
- Press the "my" button on the control point: the blind moves briefly.
- Move the slats from the slats closed position to the slats fully open position by briefly pressing the **Up button** on the control point.
- Press the **Up and "my" buttons** on the control point at the same time, until the blind moves.



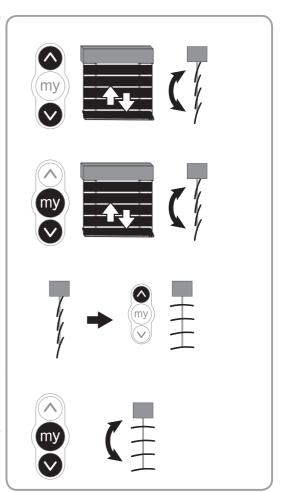
### 8.5. Modifying the position of the horizontal slats

This setting is only necessary when using a light sensor and using a  $-90^{\circ}/+90^{\circ}$  kinematic blind (Tilting travel since the lower end limit of  $180^{\circ}$  => slats not horizontal when the blind rises)

- Press the Up and Down buttons for 5 seconds on the control point: The blind moves briefly.
- Press the "my" and Down buttons on the control point: the blind moves briefly.
- Move the slats towards the horizontal position by briefly pressing the Up or Down button on the control point.
- To confirm the horizontal slat position, press simultaneously on the "my" and Down buttons on the control point until the blind moves.
- If necessary, it possible to perform this setting in the factory before the final pairing



Before doing this setting, you must set the angular travel.



## 9. TIPS AND RECOMMENDATIONS

#### 9.1. Questions on the J4 io?

Observations	Possible causes	Solutions
The blind does not	The wiring is incorrect.	Check the wiring and modify it if necessary.
operate.	The motor is hot.	Wait until the motor cools down.
	The Somfy io control point battery is low.	Check whether the battery is weak and replace it if necessary.
	The control point is not compatible.	Check for compatibility and replace the control point if necessary.
	The Somfy io control point used has not been programmed into the actuator.	Use a programmed control point or program this control point.
The blind stops too soon or too late.	The end limits have been incorrectly set.	Readjust the end limits.
Despite the presence of a sunlight sensor, when the sunlight is low the blind does not tilt the slats to the horizontal position.	The sensor is not paired/set.	Read the sensor manual to carry out the pairing and appropriate settings
	The sensor is paired/set.	Readjust the angular travel.
	The "my" position is cleared.	Set the "my" position.

# 9.1. Questions on the J4 io?

Observations	Possible causes	Solutions
I can't tilt the slats easily.	The remote control is not compatible.	Pairing and using a Situo mobile io VB/ Easy Sun io/Composio io/Smoove io remote control.
I can't tilt the slats properly.	The angular travel is incorrectly set.	Readjust the angular travel.
The"my" position is not working.	The "my" position is cleared.	Set the "my" position.
My "my" position cannot be repeated.	The angular travel is incorrectly set.	Readjust the angular travel and then reset the "my" favourite position.
	There is insufficient play in the blind ladders.	No solution by adjusting the J4 io. Recall the «my» position from the lower end limit.
The blind (or one of several) does not react as described in the manual during pairing or setting.	Pairing or setting has been not executed correctly.	Only cut shortly the power and repeat the procedure if necessary.
I have a wind sensor and the blind rises to the upper end limit regularly or even	The sensor is paired/set.	There is radio interference or the sensor is out of reach. Position the EVB - Slim receiver for Variation io outside the head rail.
every hour	The battery of the Somfy io sunlight sensor is weak.	Check whether the battery is weak and replace it if necessary.
Despite the presence of a wind sensor, when it is windy, the blind does not reach the upper position.	The sensor is not paired/set.	Refer to the corresponding guide to pair/set the sensor.
I don't think the position between the end limits is accurate.	There is insufficient play in the blind ladders.	No solution by adjusting the J4 io. Recall the «my» position from the lower end limit.

#### 9.2. Replacing a lost or broken Somfy io control point

Refer to the corresponding guide.

## 9.3. Replacing a component of the actuator

If necessary it is possible to physically replace the J4 io motor, the J4 io plate, or both.

In all circumstances, in order to have an operational installation, the following procedure must be carried out:

- Connect the plate with the motor, then reconnect the mains power supply
- Carry out the procedure from the section «9.4 Return to factory configuration».
- Carry out the procedure in section «6 Commissioning».

## 9.4. Restoring the original configuration



This reset deletes all control points, all the sensors and all the end limit settings, and resets the actuator's direction of rotation and favourite position «my».

The current position during the reset then becomes the new lower end limit position.

The upper end limit is cleared.

The favourite position of the actuator is reset to 600 ms from the lower end limit position.

The direction of rotation of the actuator is that specified in section 6.

The value of the angular travel is reset to the default value (180° rotation of the motor shaft).

Only switch off the power for the actuator to be reset.



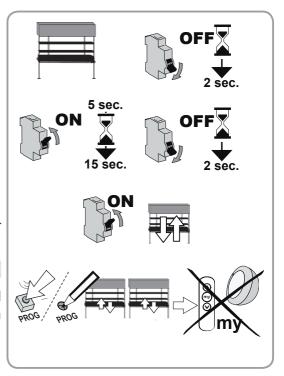
Do not place the blind, in the Upper end limit!

- Place the blind in the intermediate position (if possible).
- Cut the power supply for 2 seconds.
- Switch the power supply back on for 5 to 15 seconds.
- Cut the power supply for 2 seconds.
- Switch the power supply back on: the blind starts to move for a few seconds.

If the blind is at the upper or lower end limit, it will move briefly.

Hold down the PROG button for 7 seconds: the blind will move once then again a few moments later. The actuator is in factory configuration.

Repeat the procedures from the «Commissioning» section



# 10. TECHNICAL DATA

Radio frequency	868-870 MHz io-homecontrol®, two-way Tri-band		
Power supply	230 V ~ 50 Hz		
Operating temperature	- 20°C to + 70°C		
Protection rating (J4 io motor)	IP 54		
Protection rating (J4 io plate)	IP 67		
Maximum number of associated control points and sensors	9		
Maximum end of travel cage capacity (in turns)	200		
Factory set end of travel cage capacity (in turns)	120		
Safety level (J4 io motor)	Class I		
Safety level (J4 io plate)	Category II		
Torque (Nm)	6	10	18
Motor length (mm)	306	321	341
Acoustic power level	LpA ≤ 70 dB(A)		



For the J418, the maximum permissible torque for an end of the motor shaft is 12 Nm.

#### Thermal time

J4 io motors are protected by a thermal cut-out in case of overheating caused by **continuous** use for longer than 6 minutes.