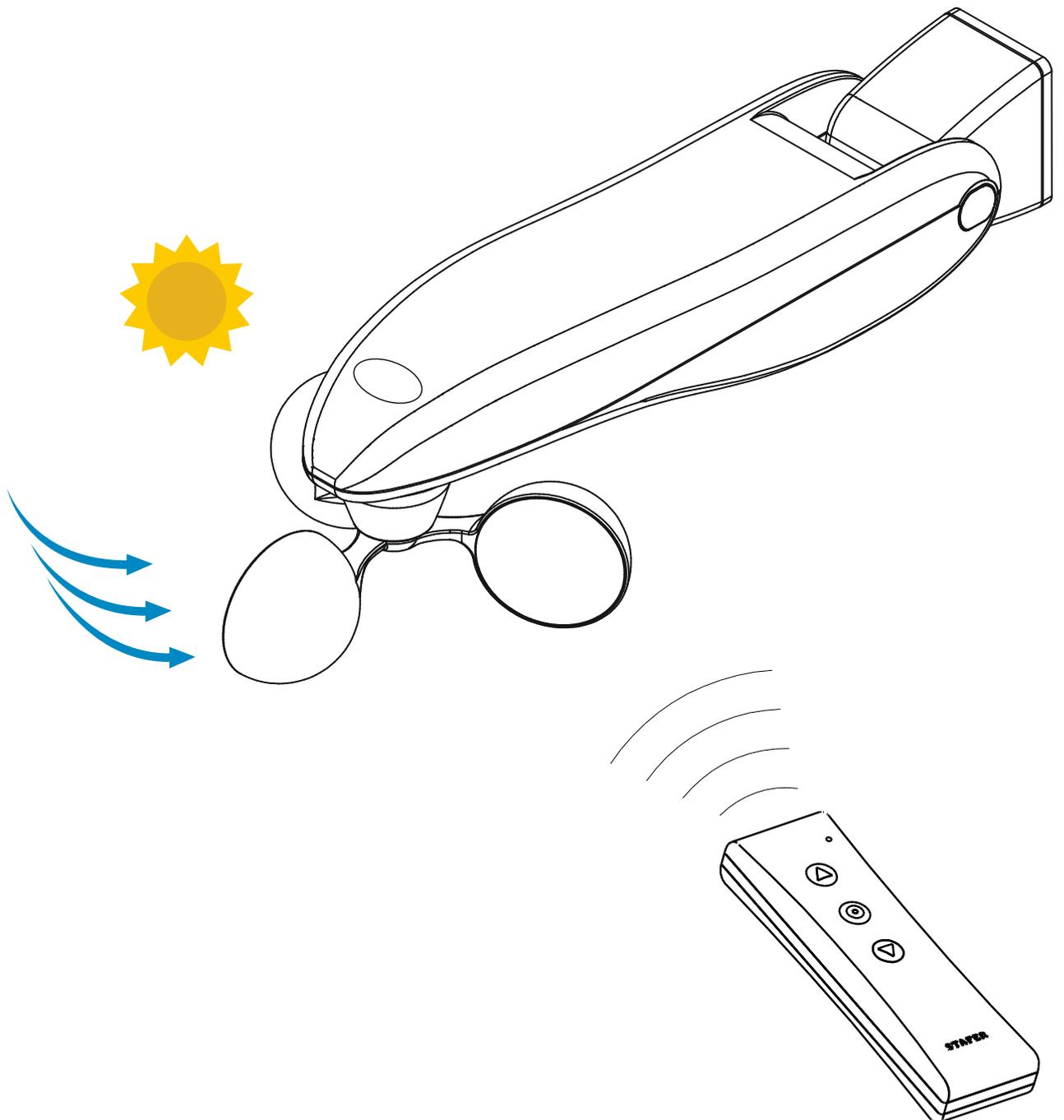


USER MANUAL:
Radio wind/sun sensor

593.K.XS.00



Dear customer, thank you for purchasing a STAFER product. This guide contains information about the product use. Before the product installation and use, please read carefully this guide and keep it for future reference.

593.K.XS.00 is a radio wind/sun sensor powered by main voltage and studied to command tubular motors with radio receiver (integrated or external), powered by main voltage and it is suitable to command awnings, roller shutters or similar.

593.K.XS.00 permits to command the automatic upward movement of the blinds connected to the motor when the wind exceeds the set threshold and to command an automatic lowering when the intensity of sun exceeds the threshold set. These thresholds are set by the factory, but they can be adjusted according to the needs.

Warning



This sensor does not protect awning in case of strong and sudden gusts of wind.

In case of weather hazards of this type, make sure that the curtains remain closed!
Stafer S.p.A. declines all responsibility for damage incurred due to weather events not detected by the device.



Any other use beyond the field defined by Stafer S.p.A. is prohibited and involves, as well as the failure to comply with instructions provided in this guide, the cancellation of Stafer S.p.A. liability and warranty.

The installer, after the installation of the product, must teach the end user about the working way of the automation and provide him with the user manual.

Technical specifications

✓ Power supply:	120 or 230 Vac, 50/60 Hz
✓ Dimensions:	236 x 54 x 73 mm
✓ Weight:	200 gr
✓ Working temperature:	from -20 to +55 °C
✓ Wind threshold:	from 5 to 35 Km/h
✓ Sun threshold:	from 1 to 45 Klux
✓ Frequency:	433.42 Mhz
✓ Memorizable radio codes:	1
✓ Range (estimate):	100m outdoor, 20m indoor

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Notes on radio system

It is advisable **to avoid using radio systems in areas with strong interference** (for example, near police stations, airports, ports, hospital, etc.). A technical inspection is in any case advisable before installing any radio system in order to identify sources of interference.

Radio systems can be used where possible disturbances or malfunctioning of the transmitter or the receiver do not cause a risk factor, or if the risk factor is cancelled by suitable safety systems.

The presence of radio device operating on the same transmission frequency (**433,42 MHz**) can interfere with the radio receiver of the motor and so reduce the range of the system and limit the functionality of the installation.



Environmental conservation!!

STAFER uses packaging recyclable materials. Dispose materials on the proper containers, complying with the law in force in your locality. This product may have substances that are polluting for the environment and dangerous for the health. At the end of the product life cycle, carefully comply with the waste disposal rules. It is strictly forbidden to dispose the product on the domestic waste.



01.1 WARNINGS FOR SAFETY

- ✓ Incorrect installation can cause serious injuries.
- ✓ Keep these instructions for future maintenance work and disposal of the product.
- ✓ All the product installation, connection, programming and maintenance operations must be carried out only by a qualified and skilled technician, who must comply with laws, provisions, local regulations and the instructions given in this manual.
- ✓ The wiring must comply with current CEI standards. The final electrical system must be created only by the electrician.
- ✓ Some applications require hold-to-run operation and can exclude the use of radio controls or require particular safety devices.
- ✓ To prevent potentially dangerous situations, check the operating condition of the roller shutter/awning regularly.

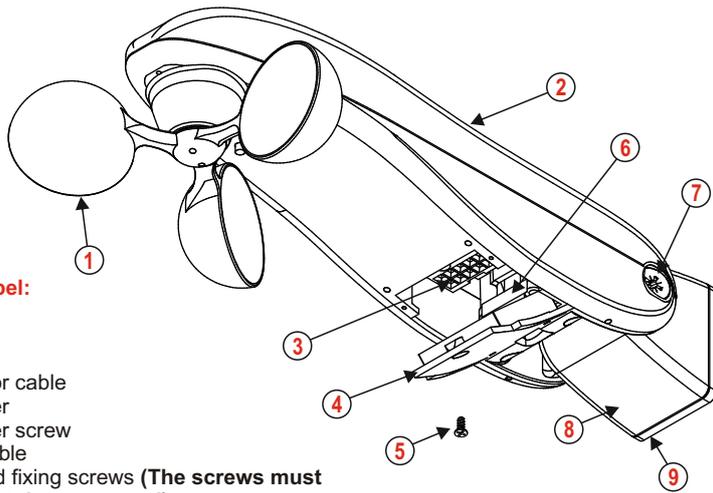
01.2 WARNINGS FOR INSTALLATION

- ✓ Read the technical specifications on the paragraph "Technical specifications" to evaluate the operating limits of the product.
- ✓ Before installing the product, check the compatibility with the associated devices and accessories.
- ✓ Check that the package is intact and has not been damaged in transit.
- ✓ A heavy shock and the use of unsuitable tools can cause the damage of the external or internal parts of the product.
- ✓ Do not pierce or tamper with the product in any way. Do not modify or replace parts without the manufacturer's permission.
- ✓ Check that the place chosen for the installation of the product permits the same wind exposure of the blind to be automated.
- ✓ Check that the place chosen for the installation is made by solid material and can ensure a stable fixation.
- ✓ Check that the place chosen for the installation of the sensor is within the range of transmission-reception generated by the sensor and by the receiver of the blind to be commanded. Although the range in favorable conditions (open field) can be 100m, it is advisable to not exceed 20-30m. It is also advisable to check that there are no other radio devices working at the same frequency or with continuous transmission on the same area, such as alarms, radio headphones, etc....: these could further reduce the range.
- ✓ If there are several radio appliances in the same system, they must not be less than 1,5m apart.
- ✓ Do not install the product near metal surfaces.
- ✓ Do not install the product near heat sources (such as chimneys, etc....).
- ✓ Adjust the inclination of the device to have the blades positioned horizontally.
- ✓ The blades for the wind detections must be faced downward. The blades must be free to rotate without obstruction.
- ✓ Check that the device is placed in a protected position from accidental impact with other object (e.g. branches, etc.).
- ✓ The power cable must be positioned in such a way that it does not come into contact with moving parts.
- ✓ Do not use abrasive or solvent product for cleaning the device; do not clean using water or high-pressure cleaners.
- ✓ For your safety, do not work near the winding roller while the motor is powered.

01.3 WARNINGS FOR USE

- ✓ The product is not intended to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or given instructions about the product way of use by a person responsible for their safety.
- ✓ Check the automation during the movement and keep people at a safe distance, until the movement ends.
- ✓ Do not allow children to play with the appliance or with the fixed control devices.
- ✓ Do not operate the blind when maintenance operations are being carried out (e.g. window cleaning, etc.). If the control device is automatic, disconnect the motor from the power line.

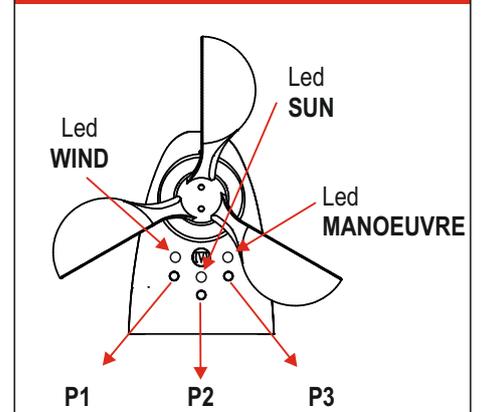
02. ASSEMBLY INSTRUCTIONS



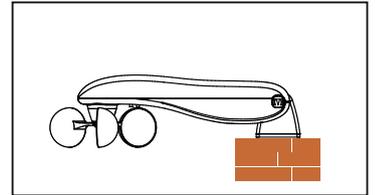
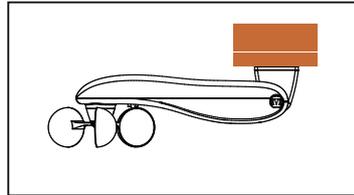
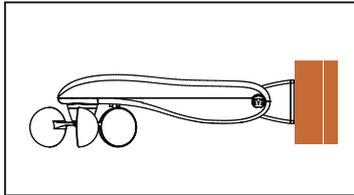
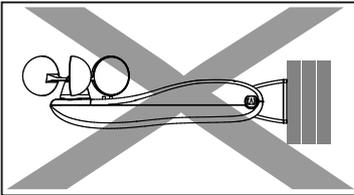
Components label:

- (1) Blades
- (2) Sensor body
- (3) Connector for cable
- (4) Closing cover
- (5) Closing cover screw
- (6) Retaining cable
- (7) Adjusting and fixing screws **(The screws must never be completely unscrewed)**
- (8) Wall fixing
- (9) Wall support
- (10) Screws cover

02.1 BUTTON AND LED DIAGRAM



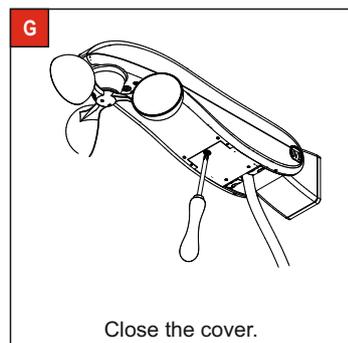
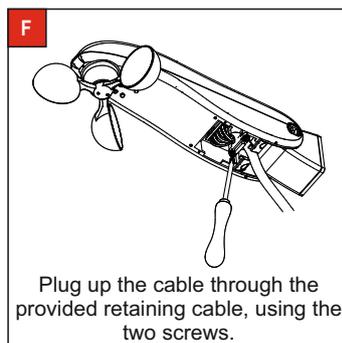
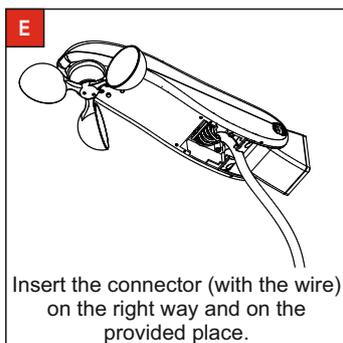
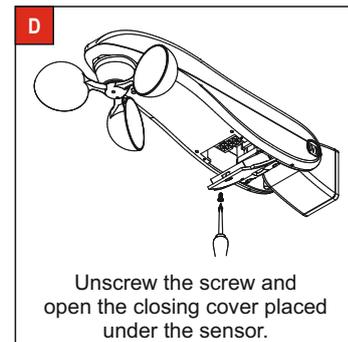
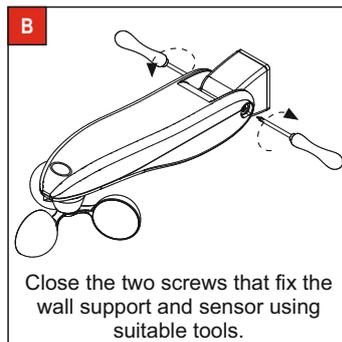
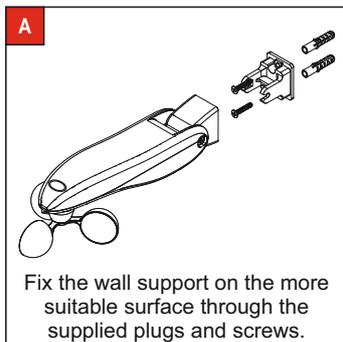
02.2 FIXING SYSTEM



02.3. MOUNTING INSTRUCTIONS



WARNING: Adjusting and fixing screws (7) must never be completely unscrewed



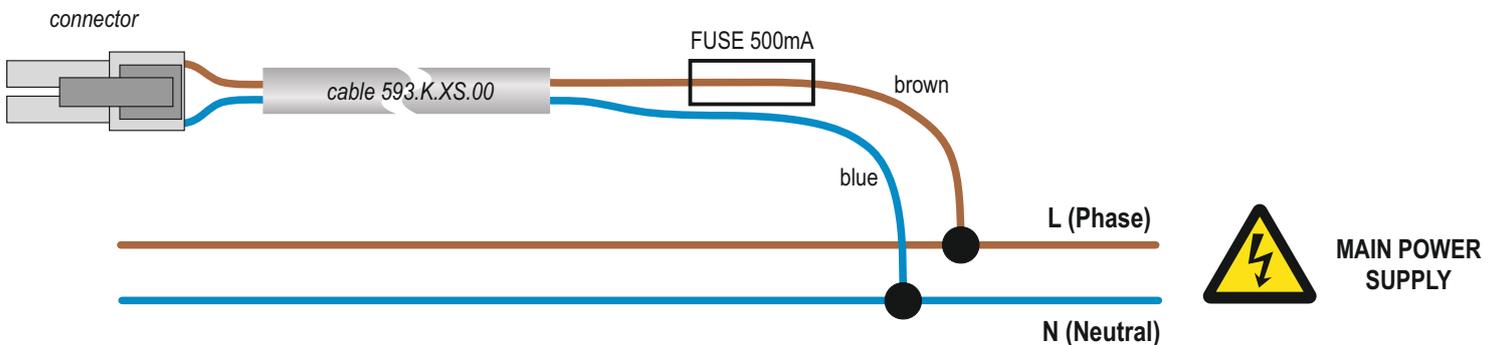
Notes:

- ✓ the product has been studied to be installed with the blades facing downward. Moreover, the body sensor must be adjusted horizontally (the use of a bubble level can simplify the operation); the wall bracket with tilting angle $\pm 90^\circ$ allows to mount the sensor even on no-vertical structures.
- ✓ the hole interaxis is 30 mm.

03. ELECTRICAL CONNECTION



- ✓ Make connections with power supply disconnected.
- ✓ Check that the power supply does not depend from electrical circuits for lighting.
- ✓ Always connect the motor to the grounding system (yellow/green).
- ✓ The supply line must be equipped with a circuit breaker. The supply line must be fitted with a device with a voltage category III, i.e. the distance between the contacts must be of 3,5 mm at least.
- ✓ The product doesn't not provide any protection against overloads or short circuits. Provide the supply line with an adequate protection to the load, for example a fuse of maximum value 500 mA.
- ✓ The section of the connecting cables must be proportionate to their length and to the absorption of the load, and in any case not less than 1,5 mm.
- ✓ **Once the electrical connections are finished, bring the motor/motors to the intermediate position and check that in the "wind alarm" condition the module commands the upward movement to the motor/motors** (to exit form the "wind alarm", press any buttons P1, P2 or P3).

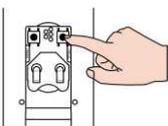


04. MEMORIZATION/CANCELLATION OF 593.K.XS.00 IN A RECEIVER

The procedure to memorize or delete 593.K.XS.00 in a receiver depends on the receiver, but usually is the following:

- with the transmitter bring the motor/receiver to the intermediate position.
- press PROG on the transmitter (with 594.T.X... in the battery compartment. / with 593.T.X1.00 in the back in the hole) for around 5 seconds to let the motor/receiver enter into the programming (the motor/receiver makes a signal)

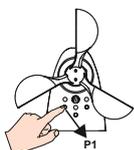
Art. 594.T.X...



Art. 593.T.X1.00



- press P1 on 593.K.XS.00 and hold it until the motor/receiver confirmation movement.



To check that the radio sensor is correctly stored on the receiving device, give an up or down command to the receiver: shortly pressing P1 on the radio sensor, the movement must stop.

05. WIND SENSOR

If the wind speed is above the set threshold for at least 3 seconds, an upward movement is commanded to protect the awning (wind alarm). During this phase **all manual commands are disabled**. The device exits from the "wind alarm" if the wind speed keeps below the set threshold for at least 8 minutes. The wind threshold is varying from 5 km/h to 35 km/h. The factory sets the wind threshold at 15 Km/h.

IMPORTANT: you can not make these adjustments from a remote control!

05.1 WIND THRESHOLD ADJUSTING THROUGH THE BUTTONS ON THE SENSOR

A

EXAMPLES:

 1 flash + pause + 5 flashes ↓ $10 + 5 = 15 \text{ Km/h}$	 3 flashes + pause + 1 long flash ↓ $30 + 0 = 30 \text{ Km/h}$
--	---

Press P1 until LED 1 starts to flash, signalling the current wind threshold

If the value is the desired one, wait 10 seconds: the device signals again the value and exits from the programming.

B ⁽¹⁾ **TO ADJUST THE WIND THRESHOLD:**
 Press P1 to set the tens and P3 to set the units

EXAMPLE:

1 X **+** **8 X**

10 **+** **8** **= 18 Km/h**

C

10 + 8 = 18 Km/h

The device signals the new value and exits from the programming

Notes:

- ✓ (1) : press the buttons within 10 seconds from the last flash of LED 1. The buttons must be shortly pressed, around 1 second between two pressures. Press the buttons the same number of time of the desired value: e.g. press 8 times P3 to set 8 Km/h; press 2 times P1 and 8 times P3 to set 28 Km/h.
- ✓ If you try to set a wind threshold lower than 5 Km/h or higher than 35 Km/h, the device signals the error with the lighting of the 3 leds for 3 times.

05.2 VISUAL SIGNALS ASSOCIATED WITH THE WIND SENSOR

LED Wind → **RED**: the wind is above the threshold

LED Wind → **OFF**: the wind is below the threshold

LED Manoeuvre → **QUICK FLASHES** } :the module is in wind alarm and the manual commands are disabled.

LED Sun → **RED**

05.3 FORCED EXIT FROM THE WIND ALARM

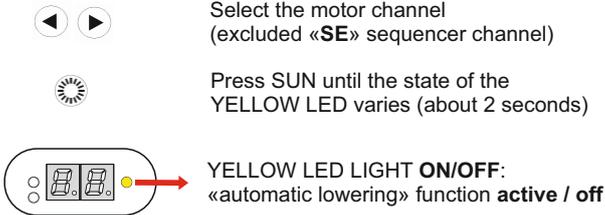
During the installation phase, it is possible to exit from "wind alarm" without waiting 8 minutes below the threshold, shortly pressing (less than 1 sec) any of the buttons **P1, P2, P3** on the device.

06. SUN SENSOR

The sensor commands a full opening / closing manoeuvre to the tuned receivers (radio devices or motors with integrated radio receiver). This function must be activated on remote control (this is not the factory setting). If there are more remote controls, it must be activated on all controls.

IMPORTANT: you can not make sun adjustments from a remote control!

USING AN HAND-HELD TRANSMITTER Mod.594



USING AN HAND-HELD TRANSMITTER Mod.593

If the LED flashes during transmission, the "automatic lowering function" is inactive.
 If the LED stays ON during transmission, the "automatic lowering function" is active.

To enable/disable the "automatic lowering function" press STOP and UP together for 3 seconds.

The motors signal that the setting has been changed.

06.1 OPERATION LOGIC

This is the factory setting.

An automatic downward manoeuvre is performed if the intensity of the sun is above the set threshold for at least 2.5 minutes.

An automatic upward manoeuvre is performed when the intensity of the sun returns to less than the set threshold for at least 18 minutes.

Once performed an automatic downward manoeuvre for the presence of sun, the subsequent automatic operation performed by the sensor will be an upward manoeuvre for the absence of sun and so on.

The user can operate the awning, but the manual control doesn't affect the operating logic of the sun sensor.

The sun threshold is variable from 1 to 45 Klux. The factory sets the threshold to 16 Klux.

06.1.1 VISUAL SIGNALS ASSOCIATED TO SUN SENSOR IN STANDARD MODE

LED Sun → OFF	: sun is below the sun threshold
LED Sun → GREEN	: sun is above the sun threshold
LED Sun → RED	: the function is inactive or system in wind alarm (sun function temporarily deactivated)

The manoeuvre LED provides information about the last automatic operation carried out by the module

LED Manoeuvre → OFF	: the automatic upward manoeuvre for absence of sun was performed
LED Manoeuvre → GREEN	: the automatic downward manoeuvre for presence of sun was performed
LED Manoeuvre → BLINKING	: is just exit from wind alarm and has not yet made any automatic operation concerning the sun

06.2 SUN THRESHOLD ADJUSTING THROUGH THE BUTTONS ON THE DEVICE

A

Press P2 until LED 2 starts to flash, signalling the current sun threshold

EXAMPLES:

 $10 + 5 = 15 \text{ Klux}$	 $30 + 0 = 30 \text{ Klux}$
--------------------------------	--------------------------------

If the value is the desired one, wait 10 seconds: the device signals again the value and exits from the programming.

B ⁽¹⁾ **TO ADJUST THE SUN THRESHOLD:**
 Press P1 to set the tens and P3 to set the units

EXAMPLE:

1 X

↓

10

+

8 X

↓

8

=

18 Klux

C

1 flash + pause + 8 flashes

↓

$10 + 8 = 18 \text{ Klux}$

The device signals the new value and exits from the programming

Notes:

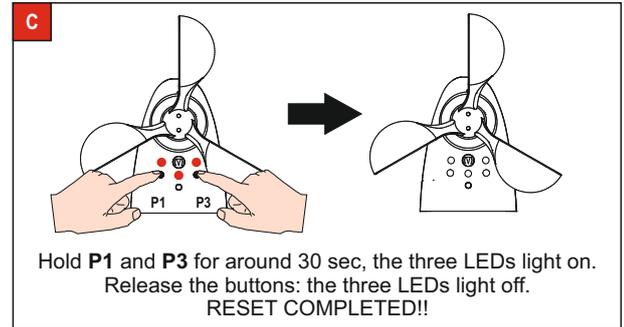
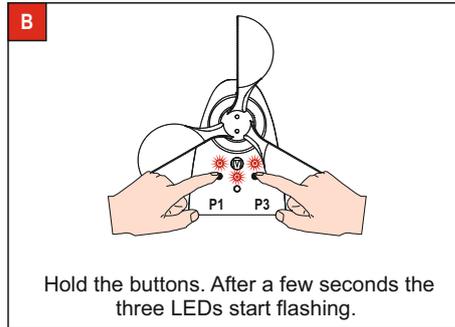
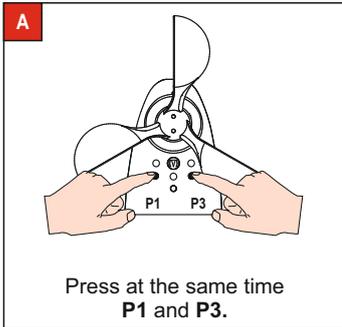
- ✓ (1) : press the buttons within 10 seconds from the last flash of LED 2. The buttons must be shortly pressed, around 1 second between two pressures. Press the buttons the same number of time of the desired value: e.g. press 8 times P3 to set 8 Klux; press 2 times P1 and 8 times P3 to set 28 Klux.
- ✓ If you try to set a wind threshold higher than 45 Klux, the device signals the error with the lighting of the 3 leds for 3 times.

07. RESET



This procedure restores the factory settings of the device. Moreover, it deletes the transmitter for sensor control, if memorized. This procedure must be carried out by qualified technical personnel. With this procedure the sensor IS NOT DELETED FROM THE MEMORY OF THE TUNED RECEIVERS.

07.1 RESET USING THE BUTTONS ON THE SENSOR



08. FAQ

THE DEVICE DOESN'T WORK

- ✓ Verify the power supply.
- ✓ Once powered, the device lights LEDs briefly to indicate the proper power supply. If this doesn't happen, it is likely a fault and it may be necessary to replace the device or there is an error in the electrical connection.

THE SENSOR COMMANDS MOTORS CORRECTLY BUT, WHEN I TRY TO CHANGE SUN / WIND THRESHOLD BY THE REMOTE CONTROL FOR SENSOR CONTROLLING, THERE ARE NO SIGNALS BY MOTORS

- ✓ Ensuring to have correctly operated the storage process of remote control of sensor controlling.
- ✓ The procedure of memorization of remote control has been made too slowly. When device enters into "transmitter programming" mode, you have 15 sec to press the STOP button of the transmitter you want to store.

WHEN I TRY TO CHANGE SUN / WIND THRESHOLD FROM REMOTE CONTROL, MOTORS MAKE 2 SMALL DOWNWARD MOVEMENTS

- ✓ You have set up a threshold out of sensor limits.

WHEN I TRY TO STORE A SECOND REMOTE CONTROL FOR SENSOR, THE FIRST REMOTE CONTROL DOESN'T MODIFY THRESHOLDS

- ✓ The sensor is able to memorize only one remote control. Sensor considers only the last one memorized.

IN PRESENCE OF WIND, THE UPWARD MOVEMENT IS NOT COMMANDED

- ✓ Wind threshold is too high. Adjust the threshold.
- ✓ The device could be installed in a position little exposed to the wind.
- ✓ The wind sensor may be damaged. Check the functioning by turning the cups to simulate the presence of the wind and make sure that device enters in "wind alarm".
- ✓ Interferences on Radio connection. Verify that there are no interferences on same frequency.

IN PRESENCE OF WIND, THE UPWARD MOVEMENT IS COMMANDED BUT IN PRESENCE OF SUN THE DOWNWARD MOVEMENT IS NOT COMMANDED

- ✓ The device is in "Wind alarm".
- ✓ Sun threshold is too high. Adjust the threshold.
- ✓ The device could be installed in a position little exposed to the sun, or some object obstructs the proper detection of the sun.
- ✓ Sun function is deactive.
- ✓ The sun sensor may be damaged. Check functionality by checking that "sun LED" blinks quickly once you apply a light source at the oval on the device.

WITHOUT WIND THE MOTORS MAKE AN UPWARD MOVEMENT

- ✓ Radio connection could be disturbed. The Test Radio function is active. If the receiver doesn't receive any information from radio sensor over the defined time, the receiver commands an upward movement to protect the awning.
- ✓ Radio sensor or receiver device doesn't work. The Radio Test function is active. If all receiver devices associated to the sensor are in this condition, probably the sensor is failure. If only one receiver device is in this condition, probably this last one is failure.



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