KAIROS

Wireless sensor light-wind-rain-temperature

6-1622652 - ENGLISH - rev.5 - 07/12/2022

INDEX

1. GENERAL SAFETY WARNINGS

WARNING!
Before installing the product it is mandatory to read the document related to the **GENERAL SAFETY WARNINGS** accompanying the product. Document **6-1620001**. The additional sheet can also be downloaded from www.allmatic.com.

2. DESCRIPTION

KAIROS devices are a family of climate sensors suitable for the detection of atmospheric events.
The sensor communicates via radio the atmospheric state detected through radio communication at 433,92Mhz, so it is not necessary to make wired connections between the sensor and the control unit. The device can only work in combination with Allmatic control units predisposed to radio reception (see compatibility table below).
There are various types of climate sensors depending on the installation needs, both powered by 100-240Vac network and powered by integrated photovoltaic panel.

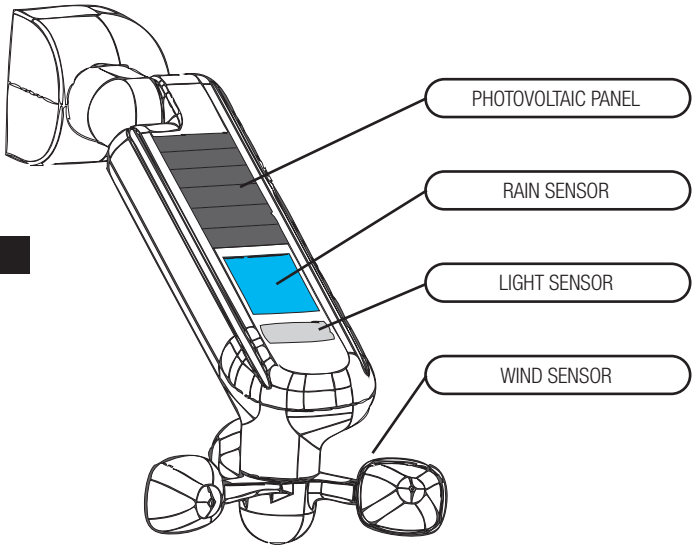
ATTENTION!
The KAIROS device is not a measuring instrument and therefore does not communicate to the control unit a detected value, but **communicates the presence or absence of the affected atmospheric event**.
The automation management of this event is assigned exclusively to the control unit in use.
During the installation also refer to the instruction manual of the control unit in use.

TABLE 1 - Sensor compatibility with ALLMATIC awning control unit.

CODE	CLIMATE SENSOR	COMMUNICATION WITH THE CONTROL UNIT	AWNING			
			MICROCAP 16	B1VR PROX	B2VR PROX	HELIOS KAIROS
12001766	KAIROS	wireless	●			●
12001770	KAIROS SA	wireless	●			●
12001765	KAIROS DUO	wireless	●			●
12001772	KAIROS DUO SA	wireless	●			●
12001768	KAIROS PERGOLA	wireless	●			●
12001774	KAIROS PERGOLA SA	wireless	●			●
12001760	KAIROS S	wired		●	●	
12001705	WIN S	wired		●	●	
12001762	AXEM	wireless	●			●

3. PRODUCT VIEW AND TECHNICAL CHARACTERISTICS

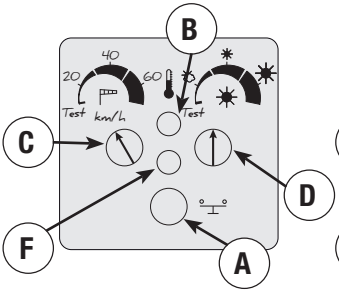
FRONT VIEW



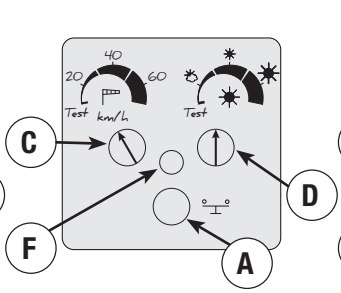
REAR LABEL VIEW

ATTENTION!
The regulation trimmers and labels change depending on the sensor model in use.

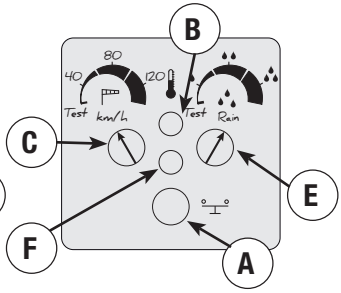
KAIROS
KAIROS SA



KAIROS DUO
KAIROS DUO SA



KAIROS PERGOLA
KAIROS PERGOLA SA



Description:

A. TRANSMISSION button
B. TEMPERATURE SENSOR
C. Trimmer for the regulation of WIND INTENSITY
D. Trimmer for the regulation of LIGHT INTENSITY
E. Trimmer for the regulation of RAIN INTENSITY
F. Multicolor signalling LED

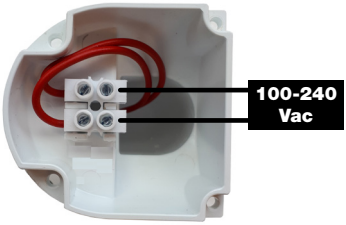
3.1 TECHNICAL CHARACTERISTICS

TABLE 2 - Available versions of wireless KAIROS sensors.

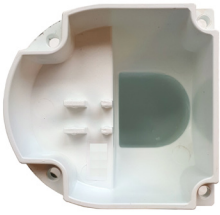
Sensor	Functionality				Power supply	Heater	Consumption
	LIGHT	WIND	RAIN	TEMPERATURE			
KAIROS	•	•	•	•	100-240Vac	YES	1,5 W 12 W with heater
KAIROS SA	•	•	•	•	Photovoltaic panel	-	-
KAIROS DUO	•	•			100-240Vac	-	1,5 W
KAIROS DUO SA	•	•			Photovoltaic panel	-	-
KAIROS PERGOLA		•	•	•	100-240Vac	YES	1,5 W 12 W with heater
KAIROS PERGOLA SA		•	•	•	Photovoltaic panel	-	-

In the versions called "**SA**" (**Stand-Alone**) the device is powered by the photovoltaic panel on the upper cover. In addition, in this version, the device has a type CR2032 battery mounted internally that, in case of a prolonged power failure through the solar panel (for example because covered by a shadow) it shall ensure the proper functioning of the whole system.

STANDARD VERSION



"SA" VERSION



3.2 RADIO COMMUNICATION

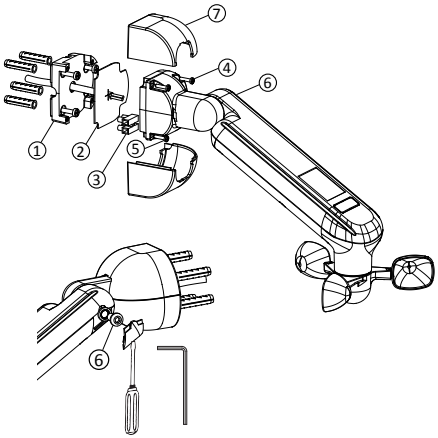
In wireless KAIROS sensors, communication between the device and the control unit is via radio waves at 433,92Mhz.
The climate sensors must be positioned on the same wall as the awning to be protected, at a maximum distance of **20-25 meters** from the control unit.

WARNING!
The maximum distance may vary considerably in the presence of metal parts, in the presence of shielding between the device and the control unit or in the presence of other devices that communicate at the same radio frequency.

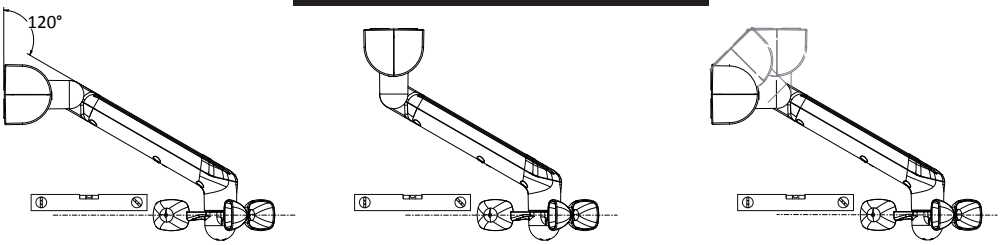
4. MOUNTING AND CONNECTIONS

Mounting instructions:

- Attach the plate ① to the wall using the drilling table (see Chapter 9) at least 2m from the ground.
- Apply the gasket ②, passing the power cable through the hole (only on standard versions).
- Connect the power cable to the terminal ③ (only on standard versions).
- Screw ④ the sensor to the wall plate, lift the sensor and screw the screws ⑤.
- Remove the protection ⑥ and adjust the grade of the sensor so that the blades are level (see below).
- Tighten the screw with a hexagonal wrench of 4 and reposition the protection ⑥ by inserting it from the bottom and pressing until closing.
- Cover with the covers ⑦.



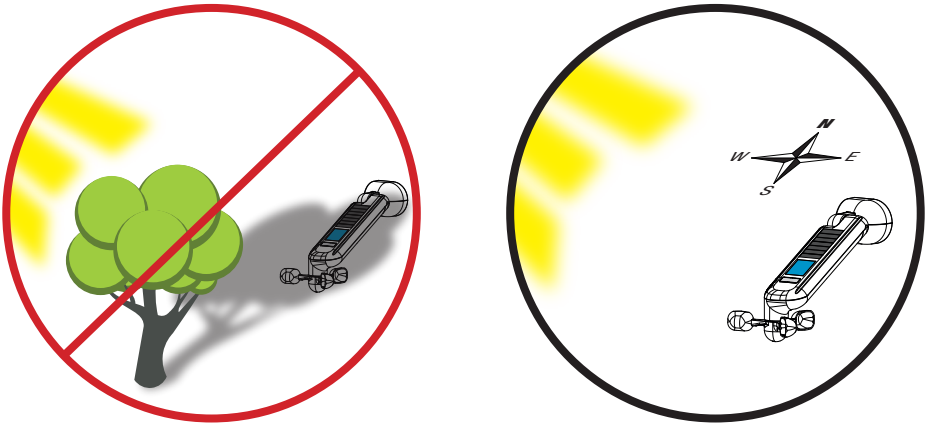
INDICATIONS OF INSTALLATION



WARNING!

If you are using a **KAIROS** sensor with **solar panel power** it is very important to ensure that it is installed in a position that is exposed as much as possible to direct sunlight.

In case the sensor is covered or shadowed by buildings or trees, the photovoltaic panel does not properly supply the sensor and therefore the buffer battery inside the sensor can be consumed early making the device stop working.
For replacement of the buffer battery refer to chapter "6. MAINTENANCE".



5. SENSOR FUNCTIONALITIES AND ADJUSTMENTS

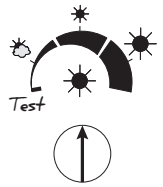
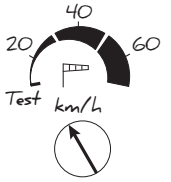
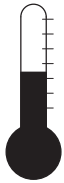
In this section it is necessary to operate simultaneously with the instructions of the sensor and the control unit in use.
Functionalities are related to the sensor model in use (see Table 2 in Chapter 3.1).

5.1 LEARNING OF THE SENSOR

Each sensor can be learned on one or more control units (positioned within a maximum range of 20-25 meters).
To learn the sensor on the control unit refer to the instructions of the control unit in use.
A short press of the button Ⓐ (< 2 sec.) carries out the transmission by the sensor, displayed with a fast flashing red color of the multicolored LED Ⓕ.

5.2 DESCRIPTION OF THE REGULATION TRIMMERS

Each KAIROS has two trimmers placed on the back of the same, thanks to which you can adjust the sensor associated with it.

LIGHT SENSOR The adjustment ranges from a few lux up to a maximum of 60Klux. By setting a low value the sensor will react with little brightness. **WARNING! The sensor reacts after the brightness has remained stable above or below the threshold for at least 10 minutes. This is to avoid continuous movements by the automation.**	
WIND SENSOR The adjustment ranges from a few km/h up to a maximum of 80km/h (160km/h for KAIROS PERGOLA). By setting a low value the sensor reacts with little wind. You can disable the wind sensor by turning the trimmer completely clockwise. **WARNING! Disabling the wind sensor there is a risk of damaging the automation.**	
RAIN SENSOR The adjustment ranges from little moisture detected to heavy rain detected on the sensor. By setting a low rain value the sensor will react with little water/humidity, while setting a high value the sensor will react in the presence of a lot of water. **WARNING! The sensor is also sensitive to moisture in the hands. For this reason, when adjusting, be careful NOT TO TOUCH the sensor with your hands.**	
TEMPERATURE SENSOR The temperature thresholds are defined and cannot be changed. The sensor will intervene when the surrounding temperature has fallen below the threshold of about 4 ° C (in "SA" versions the threshold is around 2 ° C).	

POSITION "*Test*"
Each trimmer also has a position called "Test".
This position is found by turning the trimmer completely counterclockwise.
In this position the sensor speeds up the threshold transitions and the sending of alarms and has a very high sensitivity to the atmospheric event.
For this reason, in some environments, the "Test" position could make the sensor always look alarmed.

5.3 ADJUSTMENT OF THE SENSOR

The sensor has a ADJUSTMENT MODE to be able to correctly adjust the sensors according to your needs and the environmental conditions in which you are located.
Entering the ADJUSTMENT MODE you can view the current status of the sensors and, by adjusting the intervention thresholds, find the desired value of brightness, wind speed and amount of rain needed to intervene the sensor.

To enter the ADJUSTMENT MODE you need to press and hold the button Ⓐ on the sensor for 10 seconds, until the LED turns green.
In this condition the status of the light sensor is displayed.
With another short press of the button the LED becomes yellow and displays the status of the wind sensor.
With another short press of the button the LED becomes red and displays the status of the rain sensor.
With another short press of the button the LED becomes green and displays the status of the temperature sensor.

To exit the ADJUSTMENT MODE, briefly press the sensor button Ⓐ or wait 5 minutes.
In this mode, by moving the trimmers, it is possible to identify the transition thresholds between fixed LED and flashing LED, **corresponding to the ambient conditions detected by the sensor at that time.**

TABLE 3 - Use of ADJUSTMENT MODE.

Sensor	LED Colour	FIXED LED (sensor does not intervene)	FLASHING LED (sensor intervention)	LED FLASHES SLOW
Light	GREEN	Below the set threshold	Above the set threshold	-
Wind	YELLOW	Below the set threshold	Above the set threshold	Sensor disabled
Rain	RED	Below the set threshold	Above the set threshold	-
Temperature	GREEN	> 4°C (> 2°C "SA" version)	< 4°C (< 2°C "SA" version)	-

WARNING!
When using this mode, the sensor does not communicate to the associated control unit the situation detected by the sensors.

The intervention of the sensor in the detection of the atmospheric event is not immediate and is related to timing to avoid false alarms or accidental interventions. During the adjustment mode such times are reduced to allow a smoother configuration.
Please refer to the table below for values against each sensor.

TABLE 4 - Thresholds and response times of the sensors.

SENSOR SETTING		LIGHT SENSOR	RAIN SENSOR	WIND SENSOR	TEMPERATURE SENSOR
NORMAL	THRESHOLD ADJUSTMENT	Trimmer min: 100 lux max: 60 Klux	• PERGOLA vers.: Trimmer little moisture - heavy rain • Standard vers.: 23% umidity • "SA" vers.: 20% umidity	Trimmer • PERGOLA vers.: 0-160Km/h • OTHER: 0-80 Km/h	• Standard vers.: around 4°C • "SA" vers.: around 2°C
	Minimum time above threshold	10 min	4 sec.	4 sec.	30 sec.
	Minimum time below threshold	10 min	60 sec.	60 sec.	30 sec.
ADJUSTMENT MODE	THRESHOLD ADJUSTMENT	Trimmer min: 100 lux max: 60 Klux	• PERGOLA vers.: Trimmer little moisture - heavy rain • Standard vers.: 23% umidity • "SA" vers.: 20% umidity	Trimmer • PERGOLA vers.: 0-160Km/h • OTHER: 0-80 Km/h	• Standard vers.: around 4°C • "SA" vers.: around 2°C
	Minimum time above threshold	4 sec.	4 sec.	2 sec.	5 sec.
	Minimum time below threshold	4 sec.	4 sec.	2 sec.	5 sec.

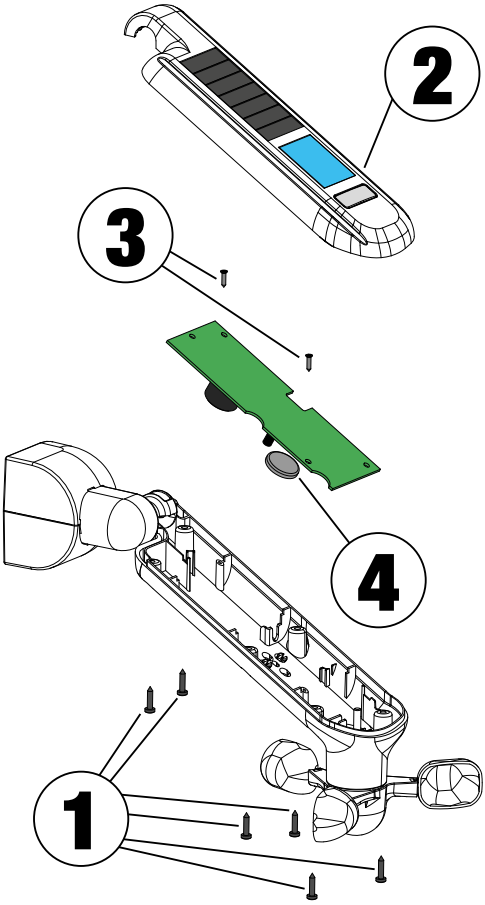
6. MAINTENANCE

For the correct functioning of the sensor over the time it is recommended periodically to:

- verify that the sensor is securely attached to the wall.
- verify that the sensor is not damaged.
- clean the top cover including photovoltaic panel, rain sensor, light sensor with a microfiber cloth WITHOUT using chemicals that could damage the sensors.
- replace the internal buffer battery **every 3 years**.

6.1 REPLACEMENT OF INTERNAL BUFFER BATTERY (only for "SA" version)

WARNING!
As the sensor is equipped with highly sensitive and fragile components, this procedure must be carried out **ONLY by specialized personnel**.
Damaging one or more parts, both electrical and mechanical, of the sensor could compromise the correct functioning of the sensor.



To open the sensor and replace the battery buffer proceed as follows:

1.	Unscrew and remove the six screws under the sensor.
2.	Gently remove the top cover, taking care not to damage the connected cables.
3.	Remove the two screws that hold the board fixed to the lower cover and lift it gently, taking care not to hit the electrical components mounted on it.
4.	Replace the battery with a new one, type CR2032.

Once replaced the battery reassemble the sensor taking care to put the board back in its seat without causing shock or crushing to the electrical components.

7. CHANGE OF SENSOR IDENTIFICATION CODE (ID)

To be performed only in exceptional cases.
The ID change is necessary when two sensors operate in the same range and have the same ID; this operation allows you to automatically change the ID.

Press and hold the Ⓐ button for more than 20 seconds.
The LED starts flashing red, yellow, amber, and when the LED turns on green fixed the ID change was executed correctly and you can release the key.
Releasing the key before the end of the procedure cancels the ID change.

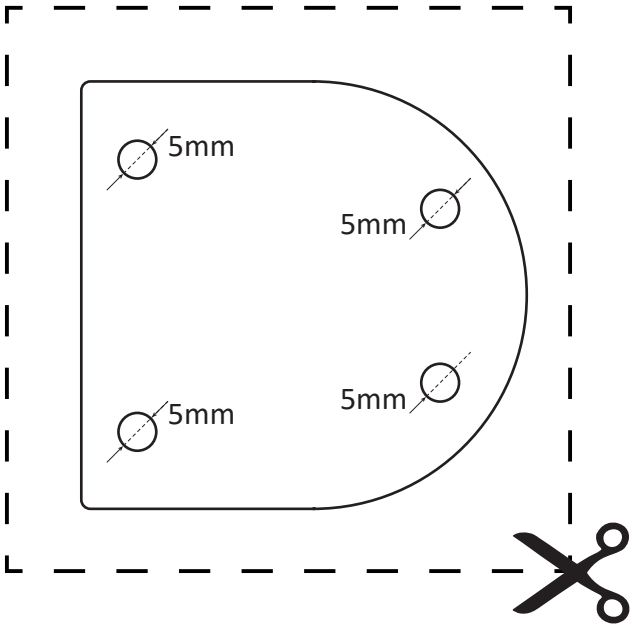
ATTENTION!
After the ID change, repeat the procedure for learning the sensor on the control unit.

8. TROUBLESHOOTING (FAQ)

Trouble	Possible causes	Solutions
When the sensor Ⓐ button is pressed, the LED does not flash.	Lack of power.	Standard versions: • Check power supply connection.
		"Stand-Alone" versions: • Clean the photovoltaic panel surface and leave the sensor in direct sunlight for at least 10-15 minutes. • Replace the buffer battery, inside the sensor.
The automation does not close in case of wind.	The set threshold (trimmer) of the wind sensor is too high.	Rotate the trimmer adjusting the wind sensor counterclockwise to a lower value.
	Wrong incline of the sensor.	Adjust the grade of the sensor so that the wind sensor blades are level.
	Wrong settings of the control unit.	Check the Control Unit settings.
The automation closes with little wind.	The set threshold (trimmer) of the wind sensor is too low.	Rotate the trimmer adjusting the wind sensor clockwise over a higher value.
Automation opens too late in the morning.	The threshold set (trimmer) of the light sensor is too high.	Rotate the light adjusting trimmer counterclockwise to a lower value. It is recommended to use the ADJUSTMENT MODE for this adjustment.
Automation opens too early in the morning.	The threshold set (trimmer) of the light sensor is too low.	Rotate the light adjusting trimmer clockwise over a higher value. It is recommended to use the ADJUSTMENT MODE for this adjustment.
Automation always has an active rain alarm.	The set threshold (trimmer) of the rain sensor is too low.	Check that the adjustment trimmer is not set to the "Test" position and adjust the trimmer clockwise over a higher value. It is recommended to use the ADJUSTMENT MODE for this adjustment.

9. DRILLING DRAWING

Cut out the shape below to drill the surface where the sensor will be placed.



10. PRODUCT DISPOSAL

This product is an integral part of automation, and therefore must be disposed of together with it. As with installation operations, even at the end of the life of this product, dismantling operations must be carried out by qualified personnel. This product consists of various types of materials: some can be recycled, others must be disposed of. Find out about the recycling or disposal systems required by the regulations in force in your territory for this category of product.

WARNING! - certain parts of the product may contain pollutants or dangerous substances which, if dispersed in the environment, could have harmful effects on the environment and human health.

As indicated by the symbol on the side, it is forbidden to throw this product into household waste. Then perform the "separate collection" for disposal, according to the methods provided by the regulations in force in your territory, or return the product to the seller when buying a new equivalent product.

WARNING! - the regulations in force at local level may provide for heavy penalties in case of improper disposal of this product.

11. WARRANTY

The manufacturer's warranty is valid from the date stamped on the product and is limited to the repair or replacement free of charge of the parts recognized by the same as defective due to lack of essential quality in the materials or lack of processing. The warranty does not cover damage or defects due to external agents, maintenance deficiency, overload, natural wear, choice of incorrect type, assembly error, or other causes not attributable to the manufacturer. Tampered products will not be guaranteed or repaired. The data given are purely indicative. No liability may be charged for reductions in scope or malfunctions due to environmental interference. The liability of the manufacturer for damage caused to anyone by accidents of any nature caused by our defective products, are only those that derive from the Italian law.

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