

EWFS Weather station plus

Operating and installation instructions



Der SonnenLichtManager

Valid from
1 January 2024
Keep for future use.

General information



Fig. 1 EWFS Weather station plus

- 1 Heated sensor surface** (precipitation sensor)
- 2 Photodiodes** (photo sensor)
- 3 Wind current sensor** (wind sensor)
- 4 Joint**
- 5 Mounting plate with cover**

The connection for the weather station power supply is found under the cover.

The EWFS Weather station plus enables the wireless control of sun shading drives and is equipped with sensors for brightness, wind speed and precipitation. The weather station is supplied with mains voltage. The device sends move commands to EWFS-compatible receivers.

Intended use

The EWFS Weather station plus is an electronic device developed to control sun shading systems. The approval of the manufacturer must be obtained for uses outside of the purposes listed in these instructions.

Safety instructions



WARNING

The electrical installation (assembly)/dismantling must be performed by a certified electrician in accordance with VDE 0100 and/or with the standards and legal requirements of the country in which the device is being installed. The electrician must observe the installation instructions included with the electrical devices supplied.



WARNING

If hazard-free operation cannot be assumed, the device may not be commissioned or must be decommissioned.

This assumption is justified,

- ▶ If the housing or the supply lines show signs of damage,
- ▶ The device is no longer working.



WARNING

An automatically controlled mechanism may begin to move unexpectedly!

- Therefore, never place any objects in the area of movement of an automatically controlled mechanism.
- Disconnect the power supply of the controlled sun shading products before maintaining or cleaning the products.



CAUTION

Never activate buttons on your transmitter arbitrarily without visual contact to the sun shading product. Children may not play with this product - Remote controls or transmitters may not get into the hands of children!



The receiver (e.g. the radio plug receiver, radio tubular motor) cannot function in the event of a power failure. Therefore, raise the sun shading system early enough in case of an approaching storm.

The radio control range is limited by legal regulations for radio systems and by structural factors. Adequate radio reception must be taken into consideration when planning the system. This is particularly important when the radio signal must pass through walls and ceilings. The control unit should not be installed in the immediate vicinity of metal components (steel beams, steel-reinforced concrete, fire door).

- Therefore, check that the receiver is functioning properly before the final installation.

Strong local transmitter systems (e.g. baby monitors or neighbouring transmitters) can interfere with the reception.

Installation

This device is designed for surface mounting on a building facade. It can also be mounted on a pole using the included cable ties.

Included fixing materials:

- ▶ 2 screws 4.5 x 40 mm
- ▶ 2 dowels 6 mm
- ▶ 2 spacers for wall and ceiling installation (Fig. 2)
- ▶ 2 steel cable ties 360 mm
- Use suitable fixing materials only. Depending on the substructure (e.g. plastered outer insulation), other screws and dowels may need to be used.
- Do not remove the protective cap of the wind current sensor until the device is fully installed.

Important information on the installation location

- Attach the device outdoors at a readily accessible but raised location.
- Metal-clad buildings, domestic interference sources (unshielded household appliances, television sets, computers), supply lines and metallic objects such as sheet metal enclosures must have a distance of at least 0.5 m from the weather station.
- Install the device in a position in which the wind current sensor is horizontal (housing inclination of 15°). When installing the device on sloped surfaces, the sensor can be positioned horizontally using the joint (Fig. 1).
- When selecting an installation location, ensure that precipitation can fall onto the sensor surface from all directions without being obstructed. For example, an overhanging roof may shield the panel.
- Before installing the device, consider that trees, bushes or parts of the building may shade the photo sensor during the course of the day. In this case, the sensor cannot deliver exact values and the results will be incorrect. Therefore, select the installation location carefully.
- When selecting an installation location, ensure that the photo sensor is exposed to the same brightness conditions as the sun shading product being controlled. This means that you need to position the photodiodes according to the building facades being shaded. Ideally, the weather station is oriented in the same direction as the sun shading product being controlled.
- Mount the device in the vicinity of the sun shading product although not in places where the sun shading product affects the wind currents; otherwise, the sensor will not provide correct wind readings.

- Separate spacers are included for wall and ceiling installation. They prevent cracking and deformation of the plastic (Fig. 2).

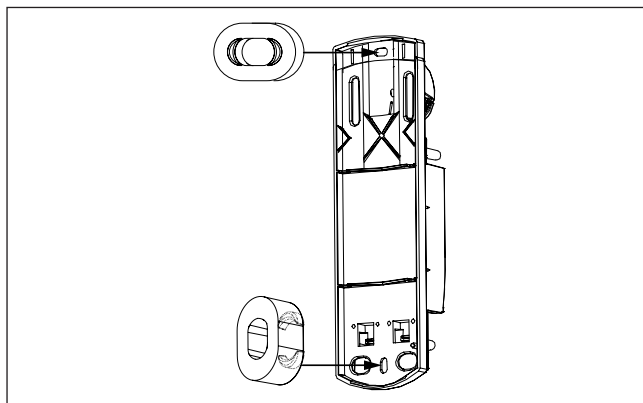


Fig. 2 Clipping the separate spacers into the threaded hole

- Additional installation information can be found in the documentation of your sun shading product.

Mounting plate

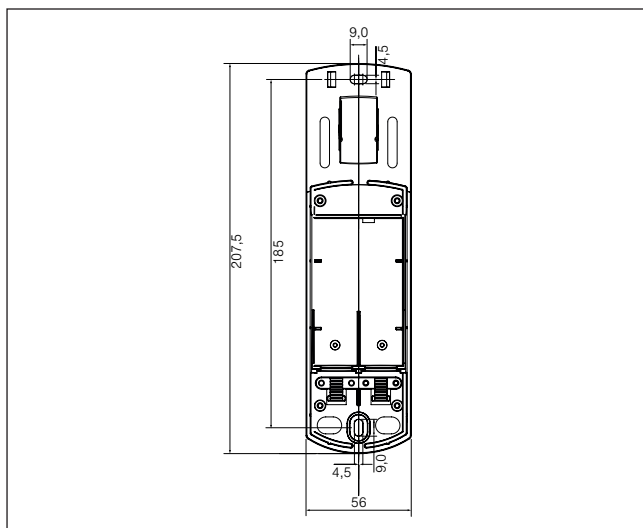


Fig. 3 Dimensions

Wall mounting

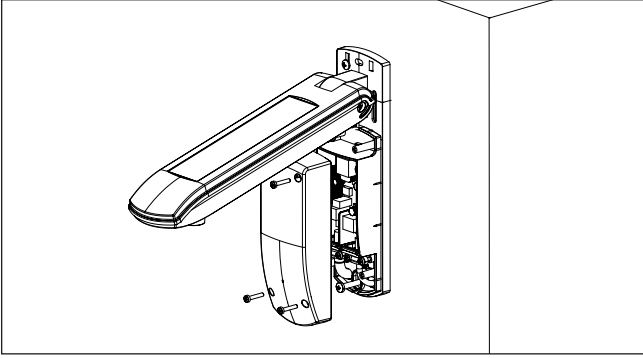


Fig. 4 Wall mounting

- Clip one of the included spacers in the threaded hole (horizontally or vertically, Fig. 2).
- Attach the weather station to a suitable substructure using the included screws and dowels as shown (Fig. 4).
The connecting cable must be correctly positioned in the guide on the back of the mounting plate to ensure it is not pinched during installation.

Ceiling installation

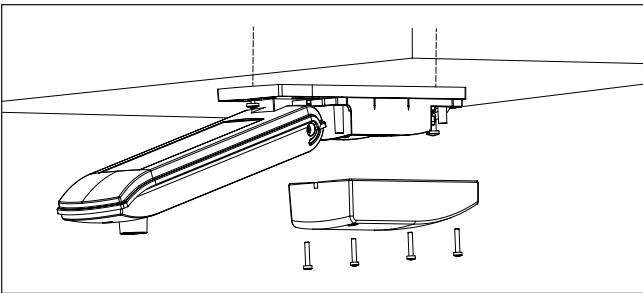


Fig. 5 Ceiling installation

- Loosen the screw on the weather station joint.
- Swing the mounting plate of the weather station up by 90° (or by the necessary angle).
- Tighten the screw on the joint.
- Clip one of the included spacers in the threaded hole (horizontally or vertically, Fig. 2).
- Attach the weather station to a suitable substructure using the included screws and dowels as shown (Fig. 5).
The connecting cable must be correctly positioned in the guide on the back of the mounting plate to ensure it is not pinched during installation.

Pole installation

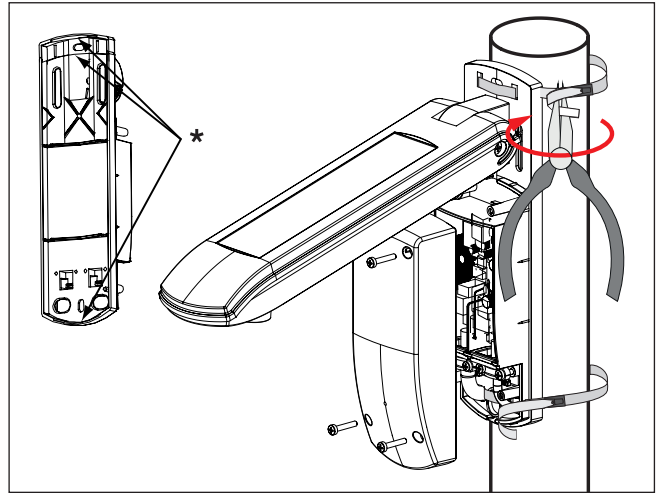


Fig. 6 Pole installation and steel cable ties locking mechanism

- Remove the thin (triangular) pieces at the top and bottom edge of the mounting plate using a wire cutter (Fig. 6 *).
- Pass the included steel cable ties through the mounting plate openings as shown. The cable tie closures must face outward.
- Turn both ends of the cable tie inwards, one at a time, using needle-nosed pliers.
Check that the weather station cannot be turned.
- Check that the weather station cannot be turned.

Connection

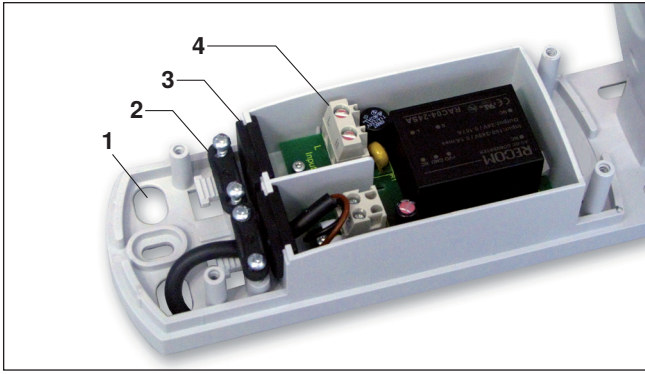


Fig. 7 Connecting the weather station

- 1 **Cable conduit**
- 2 **Strain relief**
- 3 **Rubber seal**
- 4 **Terminals**

The weather station is supplied with mains voltage.

An on-site overload current disconnecting and isolating switch to switch off the entire system must be provided.

- Route the line in such a way that water cannot flow into the device.
- Use a line that is approved for the operating voltage and is resistant to weather and UV radiation (suitable for outdoor use).
- If the line immediately enters the device after it emerges from the wall through the cable conduit (1), you can use an NYM 3x1.5 mm².
- Pass the line through the cable conduit (1) and rubber seal (3) into the housing. Secure the line with the strain relief (2).
- Connect the wires to the terminals (4). Note the labels on the terminals.



You can also route a surface-mounted line directly from below into the housing. To do this, introduce a hole into the cover of the mounting plate. The inside of the cover is thinner at the location designed for this purpose.

Operating elements

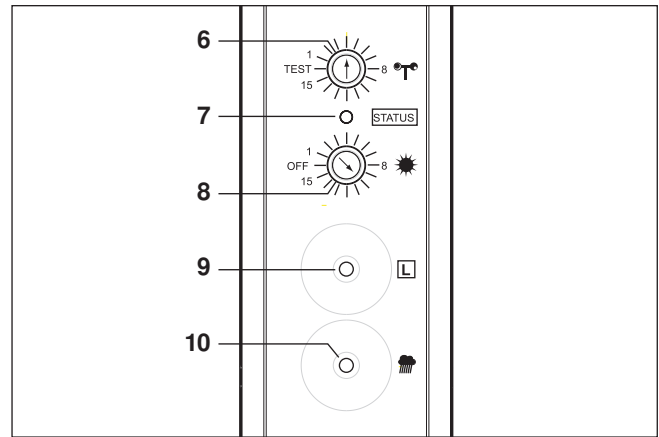


Fig. 8 Operating elements, view from below, factory setting

- 6 **Wind:** Wind speed limits can be preselected using this switch.
- 7 **STATUS LED:** Flashes green when the L button is pressed. Flashes red (three at a time) while a wind alarm is active. Flashes red (three at a time) while a wind alarm is active. Lights up green when the precipitation monitor is switched on.
- 8 **Brightness:** Brightness limit values can be preselected using this switch.
- 9 **Learn button:** For learning the weather station into a receiver. This button must be held down until the sun shading system waves once. If the button is held down until the sun shading product stops moving, the wind and brightness evaluation is learned into the receiver as well.
- 10 **Precipitation button:** To switch precipitation monitoring on and off, press the button. The status LED lights up green permanently when precipitation monitoring is switched on.

Commissioning

You can find instruction videos on our YouTube channel at:



<http://www.youtube.com/user/SonnenLichtManager/videos>

We recommend commissioning using the WMS studio pro PC software!

- Remove the transparent protective cap from the current sensor.
- Switch the mains voltage on.
- ▶ The device is now switched on and ready for operation.

Symbols used

When the receiver is delivered, it does not "know" any transmitters initially and first needs to learn to which transmitters it should respond. We refer to this process as "learning".



Power-up: To learn in a receiver, you must de-energize a receiver or group of receivers, either at the in-line circuit breaker or at the associated plug-in connector, and then switch it back on again after approx. 5 seconds. (Power-up procedure). Always carry out a power-up procedure when you see the symbol of the circuit breaker.



The receiver is now in learn mode for approx. one minute. The training key on the transmitter must be pushed within this period or the learn mode is closed. Push the training key on your transmitter whenever you see the symbol of the training key.



Wave: After the learn button on the transmitter is activated, the connected sun shading system carries out several movements. In these instruction, we use the adjacent symbol for waving. Waving once: Press the learn button on the transmitter, wait until the connected sun shading system moves and then release the button immediately.

Learning in the weather station

The weather station sends wind-, brightness- and precipitation-related move commands to an EWFS Receiver. It must be learned into the receiver first.

NOTICE The weather station can only be learned as an auxiliary channel.

Example: You would like to operate an external venetian blind with a 1-channel hand-held transmitter (I) and control it with the weather station based on brightness, precipitation and wind values.

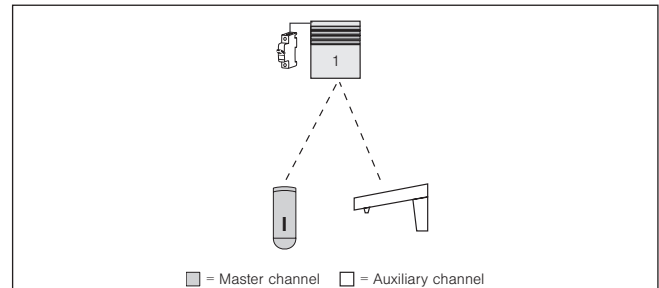


Fig. 9 Controlling an external venetian blind with a hand-held transmitter (I) and a weather station.

■ Perform the following steps consecutively:



Place receiver 1 into learn mode: Perform the power-up procedure on external venetian blind 1.



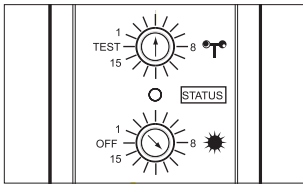
Learn in the hand-held transmitter (I) as the master channel: Take the hand-held transmitter (I), press and hold the learn button, the external venetian blind 1 waves once, release the button.



The learn mode is ended automatically. The hand-held transmitter (I) is now the master channel for external venetian blind 1.


► External venetian blind 1 can now be operated with the hand-held transmitter (I).

■ Now learn the weather station into the receiver as an auxiliary channel:



For this function, the wind speed limit may not be set to TEST and the brightness limit value may not be set to OFF at the weather station.



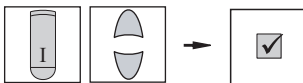
Switch on precipitation monitoring: Press the  button on the weather station. The status LED lights up green permanently when precipitation monitoring is switched on.



Place receiver 1 into learn mode: Take the hand-held transmitter into which the master channel was just learned (I), press and hold the learn button, external venetian blind 1 waves once, release the button.



Learn in the weather station as an auxiliary channel: Press the  button on the weather station and hold until the sun shading system stops moving (the external venetian blind waves three times). The weather station is now an auxiliary channel for external venetian blind 1. The wind, precipitation and brightness evaluation was learned in at the same time.



End the learn mode: Take the hand-held transmitter with the master channel (I) and press the "Up" or "Down" button.

- External venetian blind 1 now can also be controlled with the weather station.

The weather station evaluates the brightness, precipitation and wind speed data and controls the sun shading system accordingly.

Testing the weather station

Perform the following steps to test the functions of the weather station.

In the previously described learning procedure, the wind, precipitation and photo sensors were learned in together. If you discover during the test that one of the sensors was not learned in (e.g. due to electromagnetic interference), it must be learned in again **separately**.



If a sensor that has already been learned in is learned in again, it is learned out.

Example: During the learning procedure, only the precipitation and wind sensors were learned in. If the learning procedure is repeated, the photo sensor is learned in but the precipitation and wind sensors are learned out.


1. Test the wind monitoring function

- Move the "Wind" switch on the weather station to the TEST position. Move the sun shading system down slightly and simulate a gust of wind on the wind sensor. The sun shading system should now move up as a wind alarm is triggered. The sun shading system now cannot be operated for the duration of approx. 1 minute (wind alarm).




In the TEST position, the duration of the wind alarm is only approx. one minute, after which the system can be operated again. For all other settings (see the adjacent limit value table) a wind alarm takes approximately 10 minutes. The TEST setting should not remain set during normal operation since the weather station otherwise continuously sends a wind alarm (high power consumption).

If the sun shading system does not move up, the wind sensor may not have been learned in. To test whether the wind sensor was correctly learned into the receiver:

- Move the "Wind" switch on the weather station to any position other than TEST. Move the "Brightness" switch to OFF. Lower the sun shading system slightly and press the  button on the weather station.
- If wind monitoring has been learned in correctly, the sun shading system moves down for approx. one second.

If the sun shading system does not move during this test, wind monitoring was not learned in. Learn in wind monitoring again separately (see „Learning in functions individually“).




In this test, EWFS tubular motors do not respond when the  button is pressed.

2. Test the sun control

- Move the sun shading system manually to its middle position.
- Move the "Wind" switch on the weather station to the TEST position and the "Brightness" switch to position "1".
- Trigger a wind alarm: Simulate a gust of wind on the wind sensor. The wind alarm was triggered when the sun shading system moves up.
- After 1 or 2 minutes the sun shading system must move down again.

If the sun shading system does not move down, the photo sensor may not have been learned in. To test whether the photo sensor was learned into the receiver correctly:

- Move the "Brightness" switch on the weather station to any position other than "OFF". Move the sun shading system down slightly and press the  button on the weather station.
- If the sun control was learned in correctly, the sun shading system moves down for approx. one second.


If the sun shading system does not move during this test, the sun control was not learned in. Learn in the sun control again separately (see „Learning in functions individually“).

3. Test the precipitation monitoring function

- Move the sun shading system manually to its middle position.
- Wet the sensor surface of the precipitation sensor slightly with water.
- ▶ The status LED flashes red. The sun shading system should now move up.

If the sun shading system does not move during this test, precipitation monitoring was not learned in. Learn in precipitation monitoring again separately (see „Learning in functions individually“).



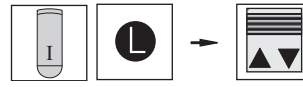
In this test, EWFS tubular motors do not respond when the  button is pressed.

Learning in functions individually

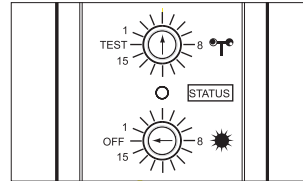
If problems arose when learning in the weather station of a sun shading product, the functions can be learned into the sun shading product separately later on.

Learning in wind monitoring individually

- Perform the following steps consecutively:




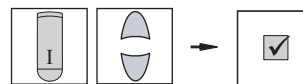
Place receiver 1 into learn mode: Take the hand-held transmitter into which the master channel was learned (I), press and hold the learn button, external roller blind 1 waves once, release the button.



Set the switches on the weather station: The "WIND" switch is located in any position other than "TEST", and the "Brightness" switch is in the "OFF" position. Precipitation monitoring is switched off (the LED does not light up green permanently).



Learn in wind monitoring: Press the  button on the weather station and hold it until the sun shading system stops moving (the external venetian blind waves once). Release the button. The weather station is now an auxiliary channel for external venetian blind 1. Wind monitoring was learned in at the same time.

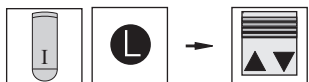


End the learn mode: Take the hand-held transmitter with the master channel (I) and press the "Up" or "Down" button.

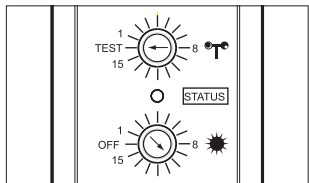
- ▶ Wind monitoring is now learned into the sun shading product.

Learning in the sun control individually

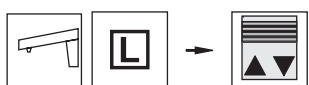
- Perform the following steps consecutively:



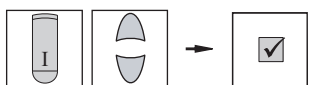
Place receiver 1 into learn mode: Take the hand-held transmitter into which the master channel was learned (I), press and hold the learn button, external roller blind 1 waves once, release the button.



Set the switches on the weather station: The "WIND" switch is located in the "TEST" position and the "Brightness" switch is in any position other than the "OFF" position. Precipitation monitoring is switched off (the LED does not light up green permanently).



Learn in the sun control: Press the **L** button on the weather station and hold it until the sun shading system stops moving (the external venetian blind waves once). Release the button. The weather station is now an auxiliary channel for external venetian blind 1. The sun control was learned in at the same time.



End the learn mode: Take the hand-held transmitter with the master channel (I) and press the "Up" or "Down" button.

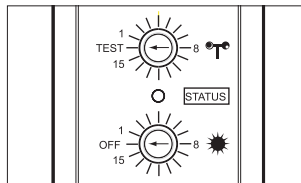
- ▶ The sun control is now learned into the sun shading product.
- Return the wind monitoring setting back to the original value.

Learning in precipitation monitoring individually

- Perform the following steps consecutively:



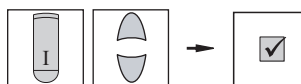
Place receiver 1 into learn mode: Take the hand-held transmitter into which the master channel was learned (I), press and hold the learn button, external roller blind 1 waves once, release the button.



Set the switches on the weather station: The "WIND" switch is located in the "TEST" position, and the "Brightness" switch is in the "OFF" position. Precipitation monitoring is switched on (LED lights up green permanently).



Learn in precipitation monitoring: Press the **L** button on the weather station and hold it until the sun shading system stops moving (the external venetian blind waves once). Release the button. The weather station is now an auxiliary channel for external venetian blind 1. Precipitation monitoring was learned in at the same time.



End the learn mode: Take the hand-held transmitter with the master channel (I) and press the "Up" or "Down" button.

- ▶ Precipitation monitoring is now learned into the sun shading product.
- Return the wind monitoring and sun control settings back to the original values.

Changing the limit values



CAUTION

Changing these settings may impair the safety of the system or reduce its effectiveness. It is better to consult an expert if you are not sure about the effect of a change.

- Set the limit values as required for your system (to the product most sensitive to the wind) based on the following table.

Wind speed limit		Photo limit	
"Wind" switch position	Wind speed limit (m/s)	"Brightness" switch position	Brightness limit value (klx)
TEST	Test	OFF	Off
1	2	1	5
2	3.5	2	15
3	6	3	20
4*	7.5*	4	25
5	9	5	30
6	10.5	6	35
7	12	7	40
8	13.5	8	45
9	15	9	50
10	16.5	10*	55*
11	18	11	60
12	19.5	12	65
13	21	13	70
14	22.5	14	80
15	25	15	>90

*= Factory setting

Operation

Switching the sun control on/off temporarily ("A" button)

To temporarily switch off the sun control for a channel into which the weather station has been learned in using the **A** button:

- Press the **A** button and hold until the sun shading system stops moving. Release the button again.
- ▶ The sun control is now switched off for 12 hours. After this period, the sun control is reactivated again automatically.

To reactivate the sun control with the **A** button:

- Press and hold the **A** button. Release the button again when the sun shading system waves.
- ▶ The sun control is active again.




The sun control can be switched off temporarily with the master channel or with the auxiliary channels.

Switching the sun control on/off permanently

- Set the switch for the sun control on the weather station to OFF.
- ▶ The weather station stops sending brightness-related move commands.
- Set the switch for the sun control on the weather station to the previous value to switch the sun control back on.

Switching precipitation monitoring on/off

- Press the  button on the weather station to switch precipitation monitoring on or off. If precipitation monitoring is switched on, the status LED lights up permanently in green. When it is switched off, the LED does not light up.

Cleaning

- The sensor surface must always be clean to avoid incorrect measuring values and to ensure operating reliability. The device should occasionally be checked for soiling (e.g. bird droppings) and cleaned carefully with a soft cloth. Do not use detergents, cleaning agents, solvents, abrasive substances or steam cleaners!
- In snowfall, check daily that the photodiodes are free of snow. A snow-covered weather station may fail to function properly.
- Never remove firmly attached layers of ice and snow. Scratching, heat and chemical antifreeze agents may damage the weather station.

Maintenance

There are no parts within the device that require maintenance.

Strong vibrations at the installation location (for example, from frequent high wind loads) can loosen the fixing screws. If the joint screw is not properly tightened, the orientation of the weather station may change as well.

- Therefore, check from time to time that the weather station is still firmly installed and that all screws are sufficiently tight.

Liability

Failure to comply with the product information in these instructions and use of the device in a manner that contravenes its intended use and purpose may result in the manufacture refusing to honour warranty claims for product damage. In this case, liability for consequential harm to persons or damage to property will also be excluded. Follow also the instructions in the operating manual of your sun shading system. The automatic or manual operation of the sun shading system when iced over as well as using the sun shading system during severe weather may cause damages and must be prevented by the user by taking suitable precautions.



The device meets the requirements on interference resistance and interference emission for use in residential and commercial areas.

Obligations for the disposal of electrical devices



A marking with this symbol indicates the following obligations under the scope of legal regulations:

- The owner of this electrical device must dispose of it separately from unsorted municipal waste for further recycling.
- Used batteries and accumulators that are not enclosed in the old device, as well as lamps/bulbs that can be removed from the old device without breaking, must be disposed of separately.
- Distributors of electrical devices and disposal companies are obliged to take back the equipment free of charge.
- The owner must take it upon themselves to delete any personal data contained in the electrical device prior to disposal.

Heartbeat function

The weather station cyclically sends a so-called "heartbeat pulse" to all receivers into which it is learned.


If the receiver does not receive measuring values for 24 h, it is assumed that the weather station has failed (heartbeat function). The receiver moves the connected product to a safe position. Depending on the type of sun shading product, operation is limited or impossible until a new valid value is received. This is a safety function and not an error.






CAUTION

If you force the sun shading system to move down by repeatedly activating the DOWN button when the weather station has failed, the safety functions are not active. The sun shading system may become damaged (e.g. due to high winds).

Technical data

EWFS Weather station plus	Min.	typ.	Max.	Unit
Supply				
Operating voltage	85	230	253	V AC
Frequency		50	60	Hz
Power consumption			3	W
RF transmitter				
Transmission frequency		433.92		MHz
Transmission power			10	dBm
Range (environment without interference)		30		m
Wind measurement				
Wind speed	2		25	m/s
Locked time in case of wind alarm			10	min
Brightness measurement				
Brightness	5		100	klx
Switch-off delay (if brightness falls below 60% of the set limit value)			10	min
Enclosure				
Dimensions in mm (LxWxH)	248 x 59 x 207 mm			
Degree of protection	IP43			
Safety class	II			
Miscellaneous				
Conformity	 available at www.warema.de/ce			
This device meets the requirements on electromagnetic immunity and electromagnetic interference for use in residential and commercial environments.				
WAREMA Renkhoff SE declares herewith that this radio system type EWFS Weather station plus is in compliance with the guideline 2014/53/EU.				
Ambient conditions				
Operating and storage temperature	-20		60	°C
Humidity (non-condensing)	10	40	100	%RH
Pollution degree	2			
Article numbers				
EWFS Weather station plus	1002 811			
WAREMA Renkhoff SE Hans-Wilhelm-Renkhoff-Strasse 2 D-97828 Marktheidenfeld Germany				

Troubleshooting

Type of malfunction	Possible cause	Remedy
The sun shading system does not wave when the  button is pressed (the status LED flashes green while the  button is pressed)	The receiver is not in learn mode	Place the receiver into learn mode
	No operating voltage at the receiver	Switch on the mains voltage
	The sun shading system is driven by the EWFS tubular motor	For design reasons, EWFS tubular motors do not respond when the  button is pressed
The sun shading system does not wave when the button is pressed  (status LED does not flash)	The operating voltage of the weather station failed	Switch on the mains voltage
When activated with the transmitter, the sun shading system moves down only briefly and then back up	A wind alarm was triggered	Wait 10 minutes until the wind alarm is cleared. Then repeat the move command
The sun shading system retracts even in low winds.	The wind speed limit is set too low	Set the correct wind speed limit after consulting the specialist dealer. The wind speed limit depends on the most wind-sensitive product controlled by the weather station.
The sun shading system does not retract in high winds	The wind speed limit is set too high	Lower the wind speed limit
	The weather station is installed in an area protected against the wind	Check the mounting position
The sun shading system is not lowered in sunshine	The brightness limit value is set too high	Decrease the value incrementally
The sun shading system does not move up in cloudy weather	The brightness limit value is set too low	Increase the value incrementally
The sun shading system does not move up during precipitation	Precipitation monitoring is switched off	Switch precipitation monitoring on at the weather station (the status LED must light up green permanently)
The sun shading system retracts although there is no precipitation	The sensor surface of the precipitation sensor is dirty or became moist due to factors that are not weather related (bird droppings, spayed water)	Clean the sensor surface (see "Cleaning")
The sun shading system unexpectedly moves up for no apparent reason	The operating voltage of the weather station failed or the weather station cannot be received. The sun shading system is retracted for safety reasons	Switch on the mains voltage, check the installation
	No communication between the weather station and the sun shading system or the EWFS Plug receiver (interference from unrelated transmitters or device faulty)	Switch off unrelated transmitters, check that the device is operating properly
The sun shading system can only be lowered in stages and stops after 5 seconds	The operating voltage of the weather station failed or the weather station cannot be received. The sun shading system cannot be operated normally until the weather station is received again	Switch on the mains voltage, check the installation
Move commands of the weather station are executed only sporadically	Interference through unrelated transmitters	Switch off unrelated transmitters (baby monitors)
	There are reinforced concrete covers or steel-reinforced concrete walls between the weather station and receiver	Reduce the distance to the receiver