WMS Weather station plus
Operating and installation instructions

*Der SonnenLicht**Manager***

General information
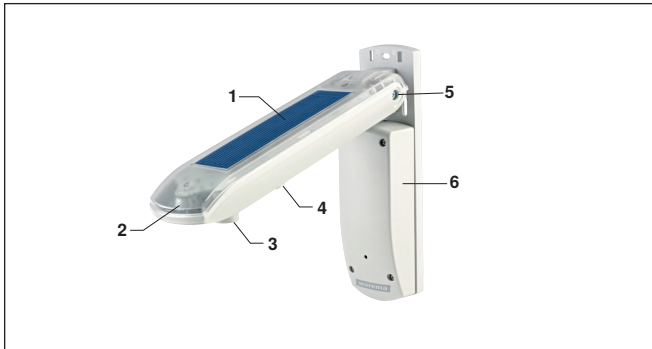

Fig. 1   WMS Weather station plus

1 **Heated sensor surface** (precipitation sensor)
2 **Photo diodes** (photo sensor)
3 **Wind current sensor** (wind sensor)
4 **Temperature sensor** (temperature sensor)
5 **Joint**
6 **Mounting plate with cover**
   The connection for the weather station power supply is found under the cover.

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

Intended use

The WMS Weather station plus is an electronic device to control WMS receivers. 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. WLAN) with transmission frequencies identical to those of the control system may interfere with 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 preferably positioned 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 photo diodes 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).
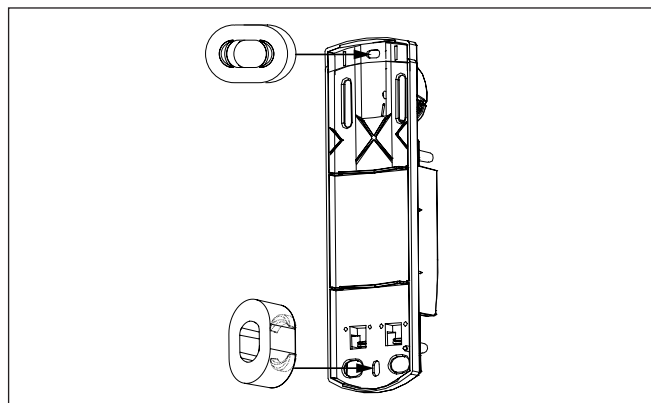

Fig. 2   Clipping the separate spacers into the threaded hole

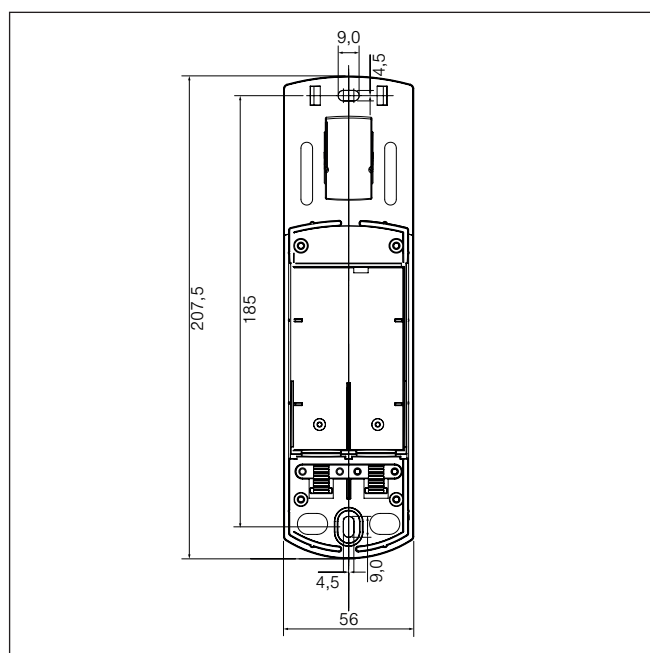■ Additional installation information can be found in the documentation of your sun shading product.

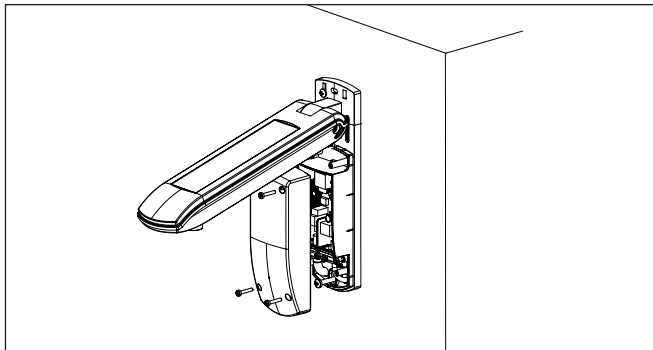Fig. 3   Dimensions

Wall installation

Fig. 4   Wall installation

- 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.
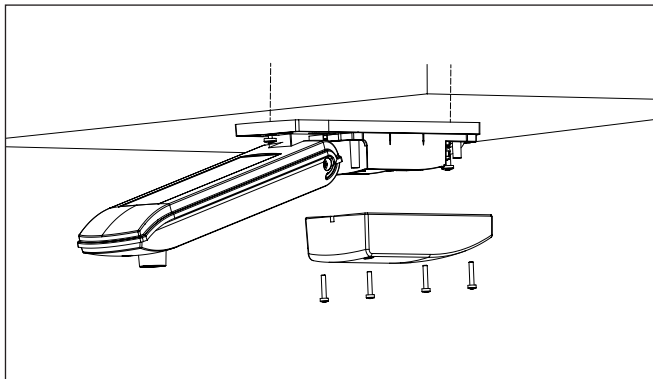- Tighten the screw on the joint.

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.
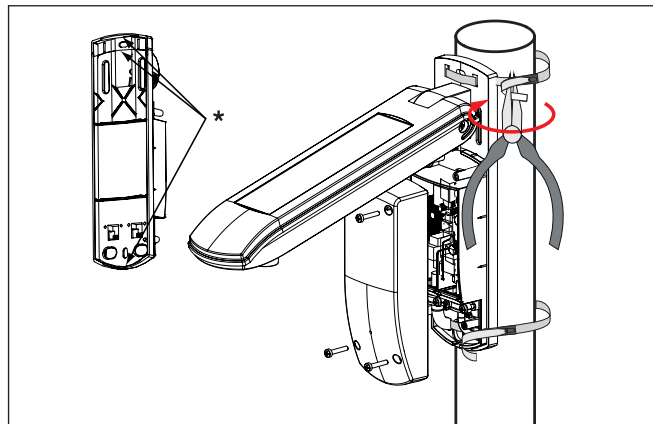
Pole installation

Fig. 6   ole 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.
- Attach the weather station correctly oriented to a securely mounted pole. Ensure that there are no trapped lines.
- Turn both ends of the cable tie inwards, one at a time, using needle-nosed pliers. Check that the weather station cannot be turned.
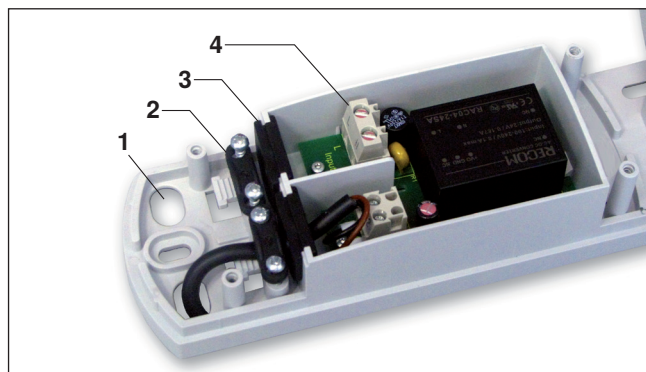- Tighten the screw on the joint.

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 mm^2.
- 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.

> **i** 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
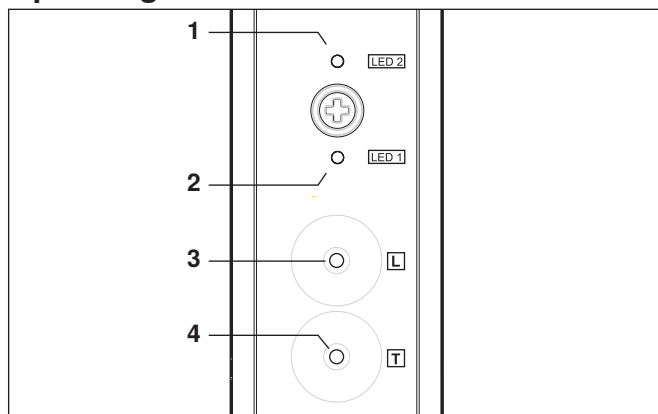
Fig. 8   Operating elements, view from below

Pos.	Fig.	Function
1	LED 2	**Status LED 2 (green)** Indicates different states of the weather station using different flash patterns
2	LED 1	**Status LED 1 (red)** Indicates different states of the weather station using different flash patterns
3	L	**Learn button** To assign the weather station to a channel or delete it Press briefly: Send the learn report for the channel Press longer than 5 s: Send the delete report for the channel
4	T	**Test button** To send a test report to the WMS network

Initial operation

> Further information and aids such as video guides and the WMS practical manual can be found on our support site.
>
> www.warema.com/radio-systems-support
>
> 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.

- Add the weather station to the network with a WMS Hand-held transmitter comfort or a WMS Central transmitter. You can then assign the weather station to the desired channels (actuators). See "Commissioning functions".
- ► At regular intervals, the weather station now sends weather data to the WMS network. The assigned actuators evaluate this information and react according to their settings.

> **i** After the weather station is assigned to the required actuators, it can be tested as described in the "Commissioning functions" section.

> **i** When commissioning, note that the weather station has an internal temperature correction feature that improves measurement accuracy. The device follows temperature changes at a rate of approx. 10 min per °C.
> When the operating voltage is first switched on, a temperature measurement is taken at the weather station. If the weather station was previously stored at a considerably lower or higher temperature, it may take several hours before the correct temperature is displayed.
> If the weather station is already at the temperature of its environment when it is first switched on, the actual temperature measurement value will be displayed from the start.

Commissioning functions

Adding a weather station to the network (scanning)

To be able to send weather data to WMS receivers, the WMS Weather station must belong to the corresponding radio network. The WMS Weather station can be detected by a WMS hand-held transmitter and added to the network of the WMS hand-held transmitter.

ℹ How to scan the weather station with a WMS Central transmitter and add it to the network is described in the operating instructions of the WMS Central transmitter.

Button/ display	Action/result
L / T brief	**Checking the weather station status** ■ Press the L or T button briefly. ► The green LED lights up for 5 s (the weather station still has factory status). ℹ If the LED flashes 3 times, the weather station is already a member of a network. Reset the weather station to the factory status if you want to add it to a new network (see "Deleting the weather station from the network").
◯	■ Wake up the WMS Hand-held transmitter comfort with any product button
🔘 (learn)	■ Press the learn button on the WMS Hand-held transmitter comfort for approx. 5 seconds
L + 📶	► L lights up in green; the transmission LED 📶 flashes. For several seconds, the WMS Hand-held transmitter comfort scans the range for receivers.
E.g. 0 1 2	► When the scanning procedure is completed, the located receivers are displayed in the upper row of LEDs (here, for example, 2 receivers). RED: New receiver GREEN: The receiver already belongs to the network Receivers that already belong to a different network are not located during scanning.
△▽	■ Select the weather station using the arrow buttons. (You can use the ⓘ button to check which receiver is currently selected. The product waves: The LEDs of the weather station and the control symbols on the WMS Hand-held transmitter comfort light up for 2 s).
E.g. 1	► The LED for the selected weather station flashes red. No product buttons light up.
Ⓢ	■ Press the S button
E.g. 1	► The LED for the selected weather station flashes green. The weather station has been added to the network.
🔘 (learn)	■ Briefly press the learn button to leave the learn mode.

Deleting the weather station from the network (restoring the factory status)

You can completely delete the weather station from the network if you decide to remove it or assign it to a different network.

ℹ When you delete sensors from the network, they are deleted from all reachable receivers in the network. The automatic functions of the receivers remain active and must be separately deactivated for each receiver. If, for example, wind monitoring was set for a receiver, the product is automatically retracted to protect it against damage if the heartbeat function fails.

Example 1: Delete the weather station from the network using the push buttons.

Button/ display	Action/result
L + T > 10 s	■ On the weather station, press the L and T buttons simultaneously for at least 10 s. ► Both LEDs flash 5 times, reset and send the delete command
	► All actuators and transmitters of the network wave. The weather station has been deleted from the network and has been restored to the factory status.

Example 2: Delete the weather station from the network using a WMS Hand-held transmitter comfortcomfort.

| Button/ display	Action/result
◯	■ Wake up the WMS Hand-held transmitter comfort with any product button
🔘 (learn)	■ Press the learn button for approx. 5 seconds
L + 📶	► L lights up in green; the transmission LED 📶 flashes. For several seconds, the WMS Hand-held transmitter comfort scans the range for receivers.
E.g. 0 1 2	► When the scanning procedure is completed, the located receivers are displayed in the upper row of LEDs (here, for example, 2 receivers). RED: New receiver GREEN: The receiver belongs to the network
△▽	■ Select the weather station using the arrow buttons. (You can use the ⓘ button to check which receiver is currently selected. The product waves: The LEDS of the weather station light up for 2 s; all control symbols lights up on the WMS Hand-held transmitter comfort.)
E.g. 1	► The LED for the selected weather station flashes green. No product buttons light up.
Ⓢ + Ⓒ	■ Press the S and C buttons simultaneously.

Button/display	Action/result
E.g. 🔲	▶ The LED for the selected weather station flashes red. A running light runs through the lower row of LEDS. ▶ The selected receiver waves.
🔲	■ Press the learn button briefly
E.g. 🔲	▶ The LED of the selected receivers flashes red. No product buttons light up. ▶ The weather station was deleted from the network and now has the factory status.
🔲	■ Briefly press the learn button to leave the learn mode.

ℹ How to delete the weather station from the network using a WMS Central transmitter is described in the operating instructions of the WMS Central transmitter.

Assigning a weather station to channel

For a WMS receiver to be able to evaluate the weather data, the weather station must be assigned to the channel of the receiver. Each WMS receiver can be assigned a maximum of four sensor products.

ℹ How to assign the weather station to a channel using a WMS Central transmitter is described in the operating instructions of the WMS Central transmitter.

Button/display	Action/result
⊞ ▤ ▤ ☉ ⊞	■ On the WMS Hand-held transmitter comfort, select the product type and channel to which you wish to assign the weather station.
🔲	■ Press the learn button on the WMS Hand-held transmitter comfort briefly.
L	▶ L lights up green and the product button and selected channel flash.
L brief	■ On the weather station, press the L button briefly. ▶ The green LED flashes three times.
📶	▶ The transmission LED 📶 on the WMS Hand-held transmitter comfort lights up green for 2 seconds and the L symbol goes out. The receivers belonging to the channel wave.
The weather station is assigned to all receivers in the channel. The automatic functions can now be set in these receivers.	

ℹ If four sensor products have already been assigned to a receiver, you must first delete once of these sensors before you can assign the weather station to the receiver.

ℹ If the weather station is assigned to a WMS receiver that has already been combined with a WMS Wind sensor (e.g. for terrace awnings), this receiver only evaluates the information of the WMS Wind sensor. All other weather data of the weather station can be evaluated normally by this receiver.

Deleting the weather station from a channel

To delete the weather station from the receivers of a channel again, proceed as follows:

ℹ How to delete the weather station from a channel using a WMS Central transmitter is described in the operating instructions of the WMS Central transmitter.

Button/display	Action/result
⊞ ▤ ▤ ☉ ⊞	■ On the WMS Hand-held transmitter comfort, select the product type and channel to which you wish to assign the weather station.
🔲	■ Press the learn button on the WMS Hand-held transmitter comfort briefly.
L	▶ L lights up green and the product button and selected channel flash.
L > 5 s	■ On the weather station, press the L button for at least 5 s. ▶ The green LED flashes twice.
📶	▶ The transmission LED 📶 on the WMS Hand-held transmitter comfort lights up green for 2 seconds and the L symbol goes out. The receivers belonging to the channel wave.
The weather station is now deleted from all receivers of the channel. If necessary, adjust the settings of the automatic functions for the receivers of this channel.	

Testing the weather station

The weather station sends a test report to the network at the push of a button. All receivers into which the weather station was learned in wave. The measurement values can be displayed on a WMS Central transmitter.

Button/display	Action/result
T brief	■ On the weather station, press the T button briefly. ▶ The green LED flashes 3 times, the test report is sent
	▶ All receivers to which the weather station is assigned wave.
Measured values can be displayed on a WMS Central transmitter or in the special menu of a WMS Hand-held transmitter comfort.	

Automatic functions

Switching on/off the comfort control functions

You can switch the comfort controls off and on temporarily to prevent the sun shading products from moving automatically. The command always applies to all receivers that were learned into the WMS transmitter. Safety functions cannot be switched on and off.

Button/display	Action/result
◯	■ Wake up the WMS Hand-held transmitter comfort with any product button
Ⓐ	■ Press the control button.
Ⓐ + ☀ ☽ ▬ ▬	▶ The Ⓐ and the sun and dawn/dusk control symbols light up. ▶ The LEDs below the symbols indicate the type of switch command: GREEN: Switch on the control functions RED: Switch off the control functions
📶	▶ The 📶 transmission LED lights up for 2 seconds GREEN: The control functions were switched in all receivers RED: Not all receivers could be reached; switch the control functions OFF and ON again (or ON and OFF).

> **i** The WMS Hand-held transmitter comfort always remembers the command last sent. When the control button is pressed again, the WMS Hand-held transmitter comfort sends the opposite command (ON - OFF - ON -...).

Displaying/setting the control functions

Your products can be automatically controlled in the WMS network as a function of sunlight, dawn/dusk, temperature, precipitation or wind. The parameters of the automatic controls can be displayed and changed via the WMS Central transmitter or the WMS Hand-held transmitter comfort.

> **i** Only those parameters are displayed that belong to the selected product type (e.g. there is no precipitation control for the "light" product type). The parameters of the wind safety function can be displayed but not changed. Temperature functions are only available via the WMS Central transmitter.

Button/display	Action/result
🎚 📋 📋 💡 ▯	■ Select the product type and channel that you wish to set.
E.g. 1	▶ The LED below the channel number lights up.
ⓘ	■ Press the info button briefly.

Button/display	Action/result
ⓘ + E.g. 0 1 2	▶ ⓘ lights up ▶ The upper row of LEDs shows how many receivers belong to the selected channel. One LED lights up in green for each receiver (one receiver in the example).
ⓘ	■ Press the info button repeatedly until the desired control function lights up.
E.g. ☀	▶ The LED below the control symbol shows the state of the control system. GREEN: Active RED: Inactive
E.g. 0 1 2 3 ...	▶ The parameter value of the current control function is displayed in the upper row of LEDs (here, limit value 2 of the previously selected sun control). RED: Value 0; the control function is off GREEN: Values 1 to 9 FLASHES: Multiple receivers with different values in the channel. The value of the first receiver is displayed.
You can now change this parameter value or switch to the next info mode using the ⓘ button:	
△▽	■ Use the arrow keys (➕ + ➖ light up) to change the parameter value.
E.g. 0 1 2 3 ...	▶ The upper row of LEDs shows how the value changes (new value = 1)
⬜	■ Press the Ⓢ button
📶	▶ The 📶 transmission LED lights up for 2 seconds GREEN: The parameter value was stored in all receivers of the channel RED: Not all receivers could be reached; press the Ⓢ button again.
ⓘ	■ Leave the info mode using the info button (ⓘ is no longer lit)

> **i** Move commands cannot be sent while the info mode is active (ⓘ lights up). In the info mode, the WMS Hand-held transmitter comfort switches off one minute after the last press of a button.
>
> If multiple receivers belong to a single channel, the set parameter value is written to all receivers of that channel.

Display of the limit values using the WMS Hand-held transmitter comfort

The following table shows the limit values that the display values of the LED lines on the WMS Hand-held transmitter comfort represent.

Display of the limit values set in the receiver:

The WMS Hand-held transmitter comfort converts the limit values read out of the receiver to values that can be displayed on the 10 LEDs in the upper row of LEDs. The displayed limit values therefore only approximate the limit values from the receiver.

Display of the limit values read out of the receiver				
Level	Photo (klx)	Dawn/dusk (lx)	Precipita-tion	Wind (m/s)
0	OFF	OFF	OFF	OFF
1	3...12.5	2...22	ON	0.0...5.5
2	13...17.5	24...36	ON	6.0...6.5
3	18...22.5	38...52	ON	7.0...7.5
4	23...27.5	54...70	ON	8.0...8.5
5	28...32.5	72...90	ON	9.0...9.5
6	33...37.5	92...126	ON	10.0...10.5
7	38...42.5	128...174	ON	11.0...11.5
8	43...47.5	176...300	ON	12.0...12.5
9	48...100	302...500	ON	13.0...25.0

If the first LED (level 0) lights up for the wind limit value, the wind control is switched off.
If 5 LEDS (level 4) light up, the limit value set in the receiver is between 8.0 and 8.5 m/s.

Display of the limit values when making settings using the arrow buttons:

When you change the limit values using the arrow buttons, the display shown in the upper LED row corresponds to the values in the following table. These values are written to the receiver when the data is saved.

Display while limit values are being set				
Level	Photo (klx)	Dawn/dusk (lx)	Precipita-tion	Wind (m/s)
0	OFF	OFF	OFF	OFF
1	10	16	ON	5
2	15	30	ON	6
3	20	46	ON	7
4	25	60	ON	8
5	30	80	ON	9
6	35	100	ON	10
7	40	150	ON	11
8	45	200	ON	12
9	50	400	ON	13

If the first LED (level 0) lights up for the photo limit value, the sun control is switched off.
If you change the value (up to 7 LEDs light up, level 6), a limit value of 35 klx is stored in the receivers of the selected channel when the [S] button is pressed.

Changing the wind speed limits (specialist dealers only)

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.

For your sun shading product to be protected properly, the limit value above which a wind alarm is triggered needs to be set for that particular product (type, width, projection, etc.).

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

How to change the limit values using a WMS Central transmitter is described in the operating instructions of the WMS Central transmitter.

Changing the wind speed limits with a WMS Hand-held transmitter comfort

The actual wind speed values in m/s represented by the WMS Hand-held transmitter comfort display are shown in the tables in the previous section.

Button/ display	Action/result
The wind speed limit can only be changed if the WMS Plug receiver was first learned into the WMS Hand-held transmitter comfort.	
	■ Select the product type and channel that you wish to set.
E.g. 1	► The LED below the channel number lights up
	■ Press the mode button with a pointed object until $\boxed{M}$ lights up and mode 0 is selected. The mode button must be pressed before the WMS Hand-held transmitter comfort returns to sleep mode. If you press the mode button for too long and a higher mode is displayed: Release the button and press and hold it again; the process restarts at 0.
$\boxed{M}$ + 0	► $\boxed{M}$ and the LED above the 0 light up in red
	■ Briefly press the learn button to activate the mode.
0 ✹	► The LED above the number 0 briefly lights up in green. ► The sun control is displayed automatically.
(i)	■ Press the info button repeatedly until the symbol for the wind control lights up.
✵	► The LED below the control symbol shows the state of the control system. GREEN: Active RED: Inactive

Button/ display	Action/result
E.g. 0 1 2 3 ...	► The parameter value of the wind control is displayed in the upper row of LEDs (here, limit value 2). RED: Value 0; the control function is off GREEN: Values 1 to 9 FLASHES: Multiple receivers with different values in the channel. The value of the first receiver is displayed.
△▽	■ Use the arrow keys ($\boxed{+}$ + $\boxed{-}$ light up) to change the parameter value.
E.g. 0 1 2 3 ...	► The upper row of LEDs shows how the value changes (new value = 1)
⊡	■ Press the $\boxed{S}$ button
🛜	► The 🛜 transmission LED lights up for 2 seconds GREEN: The parameter value was stored in all receivers of the channel RED: Not all receivers could be reached; press the $\boxed{S}$ button again.
🖉	■ Leave the dealer mode with the mode button ($\boxed{M}$ is no longer lit)

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.

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).

Function overview

The following table summarizes the functions of the weather station and the LED display.

Button	Action/result
$\boxed{L}$ / $\boxed{T}$ brief	**Checking the power supply of the weather station** The weather station has not yet been added to a network. ■ Press the $\boxed{L}$ or $\boxed{T}$ button briefly. ▶ The green LED lights up for 5 s if the weather station is supplied with voltage.
Command from WMS transmitter	**Waving** The weather station responds to the command of a WMS transmitter ■ Command of the WMS transmitter: - Info button during learning process (wave) - Add to the network - Delete from the network ▶ Both LEDs light up for 2 s.
$\boxed{T}$ brief	**The weather station sends a test report** Measured values can be displayed on a WMS Central transmitter or in the special menu of a WMS Hand-held transmitter comfort. ■ Press the $\boxed{T}$ button briefly. ▶ The green LED flashes 3 times, the test report is sent
$\boxed{L}$ brief	**Assigning a weather station to channel** The weather station sends a learn report to confirm the assignment to a channel. ■ Press the $\boxed{L}$ button briefly. ▶ The green LED flashes 3 times, the learn report is sent
$\boxed{L}$ > 5 s	**Deleting the weather station from a channel** The weather station sends a delete report to confirm the deletion from a channel. ■ Press the $\boxed{L}$ button for at least 5 s. ▶ The green LED flashes twice, the delete report is sent
$\boxed{L}$ + $\boxed{T}$ > 10 s	**Resetting the weather station** The weather station sends a delete command to the network and is reset to the factory status. ■ Press the $\boxed{L}$ and $\boxed{T}$ buttons simultaneously for at least 10 s.. ▶ Both LEDs flash 5 times, reset and send the delete command

The radio module of the weather station is activated for one minute every time a button is pressed.

Technical data

WMS Weather station plus	Min.	typ.	Max.	Unit
Supply				
Operating voltage	85	230	253	V AC
Frequency		50	60	Hz
Power consumption			3.6	W
RF transceiver				
Transmission frequency	2.40		2.48	GHz
Transmission power			10	dBm
Reception sensitivity		-101		dBm
Range (environment without interference)		30		m
Readings				
Wind speed (intervals 0.5 m/s)	0		25	m/s
Brightness (intervals 0.5 klx)	0		100	klx
Dawn/dusk (intervals 2 lx)	0		500	lx
Temperature * (increments of 0.5 °C)	-20		60	°C
Precipitation (yes or no)	0	or	200	mm/h
Enclosure				
Dimensions in mm (LxWxH)		248 x 59 x 207 mm		
Degree of protection/		IP43		
Safety class		III		
Miscellaneous				
Conformity		CE available at www.warema.de/ce		

The device meets the EMC directives for use in residential and commercial areas.

WAREMA Renkhoff SE declares herewith that this radio system type [WMS Weather station plus] is in compliance with the current guidelines.

Ambient conditions				
Operating and storage temperature	-20		60	°C
Humidity (non-condensing)	10	40	100	%RH
Degree of soiling		2		
Article numbers				
WMS Weather station plus		1002813		

WAREMA Renkhoff SE
Hans-Wilhelm-Renkhoff-Strasse 2
D-97828 Marktheidenfeld
Germany

* Measuring value temperature:
To be able to measure all values correctly and with a high degree of accuracy, the weather station must be mounted directly in the sun. For this reason, the temperatures measured by other thermometers located in the shade may differ on sunny days. This difference has no influence when you are using the ice monitoring function in a network participant

ℹ️ epending on the installation location and varying amounts of solar radiation, measurement tolerances of up to ± 5°C can be expected.

Troubleshooting

Type of malfunction	Possible cause	Remedy
When a button is pressed on the weather station, no LED lights up	The operating voltage of the weather station is off	Switch on the mains voltage
The sun shading system does not wave when the T button is pressed (green LED flashes three times)	No operating voltage at the receiver	Switch on the mains voltage
	The weather station has not been assigned to the receiver.	Assign the weather station to the channel of the receiver (see "Assigning the weather station to a channel").
	Waving depends on the software version of the particular receiver. Receivers of the first model series do not yet wave to confirm receipt of the delete command.	-
When activated with the transmitter, the sun shading system moves down only briefly and then back up	A wind alarm was triggered	Wait until the wind alarm is cleared. Then repeat the move command
The sun shading system retracts even in low winds.	Wind limit value 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	Wind limit value set too high	Lower the wind speed limit
	The weather station is installed in an area protected against the wind	Check the installation location
The sun shading system is not lowered in sunshine	Brightness limit value set too high	Decrease the value incrementally
The sun shading system does not move up in cloudy weather	Brightness limit value set too low	Increase the value incrementally
The sun shading system does not move up during precipitation	Precipitation monitoring is switched off	Switch on precipitation monitoring for the channel of the receiver
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 WMS 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	Deactivate unrelated transmitters
	There are reinforced concrete covers or steel-reinforced concrete walls between the weather station and receiver	Reduce the distance to the receiver
The sun shading product does not respond to the wind information of the weather station	If the weather station is assigned to a WMS receiver that has already been combined with a WMS Wind sensor (e.g. for terrace awnings), this receiver only evaluates the information of the WMS Wind sensor.	The WMS Wind sensor is always only responsible for the wind monitoring. Other wind information is ignored by the WMS receiver. All other weather data of the weather station can be evaluated normally by this receiver.