

Setting instructions and wiring diagram



WAREMA WMS awning drive
Type WMS-MM

Der SonnenLichtManager

For qualified technicians only

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1 Information on safety



Warnings are marked in the instructions with this symbol.



- Read through the product instructions before use.
- Observe all safety and setting instructions.



The basic safety instructions can be viewed under (www.warema.de/Sicherheitshinweise).

Target group

These instructions are intended for use by qualified fitters (commissioning) and electricians (connection work).

Permissible activities

Performing tasks on the product that are not described in these instructions is not permissible. No other alterations are to be carried out on the product other than as described in these instructions without the written approval of WAREMA.

If any questions arise before or during installation, please send an e-mail to service@warema.de or call +49 9391 20-1900.

Intended use

The drive is intended for operation of the following products:

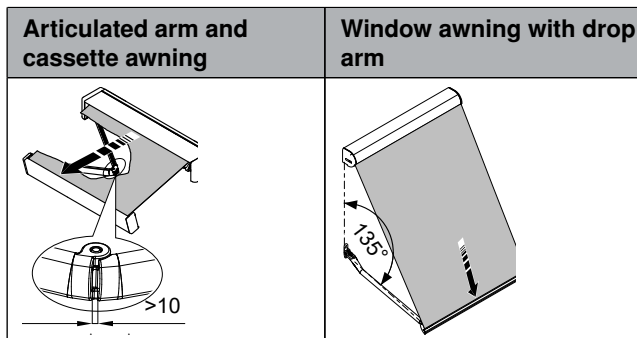
- ▶ Front-mounted awnings with drop arm
- ▶ Drop-arm awning with cassette (no longer available)
- ▶ Articulated arm awning, half-closed
- ▶ Cassette awning

2 Commissioning

2.1 Information on the limit positions

Lower motor limit position

The drive has a position-controlled limit switch-off at the bottom.



Tab. 1: Product-specific lower limit position

Upper motor limit position

The drive has a torque-controlled limit switch-off at the top.

2.2 Aids for commissioning

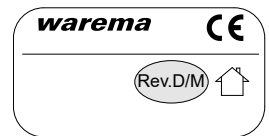
Test cable (venetian blind switch) Art. no. 634013		1 UP button 2 DOWN button
----------------------------------------------------------	--	------------------------------

Optional: WAREMA Smart programming cable (art. no. 2010652)



INFO

For WMS Hand-held transmitters up to a certain version (see label on the back), Mode 1 needs to be performed (for the procedure, see the WMS Application brochure).



WMS Hand-held transmitter basic (front) - Art. no. 1002953		1 Control button 2 Automatic LED 3 UP button 4 STOP button 5 DOWN button 6 Comfort button 7 Transmission LED
WMS Hand-held transmitter plus (front) - art. no. 2016192		1 Control button 2 Control LED 3 UP button 4 STOP button 5 DOWN button 6 Comfort button 7 Channel change button 8 LED display channel 9 Transmission LED
WMS Hand-held transmitter (back)		1 Learn button 2 Mode button

Commissioning

2.3 Setting the motor limit positions









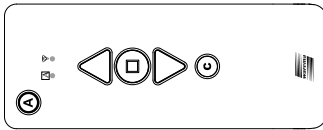
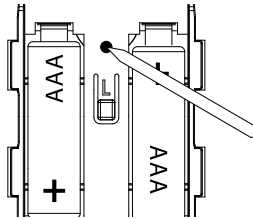


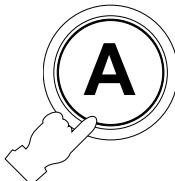
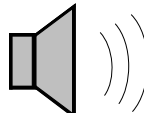
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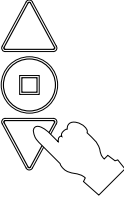
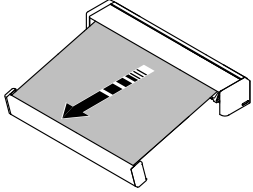
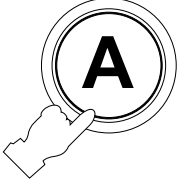
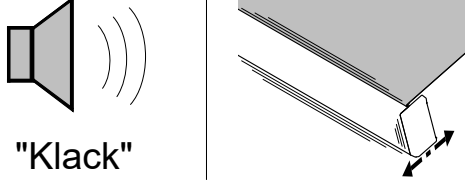
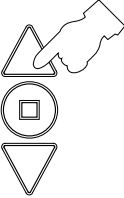
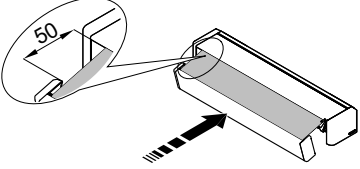
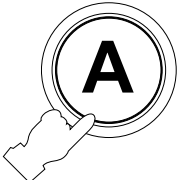
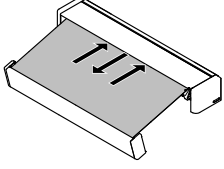
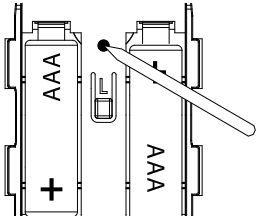




For commissioning, voltage must be applied to the drive. However, voltage should only be applied to one product at a time.

The limit positions are **set** (cassette awnings articulated arm awnings). The limit positions are **not set** (window awnings with drop arm). The limit positions can also be set via the WMS Central transmitter (as of rev. D) or the WMS Studio pro PC software.

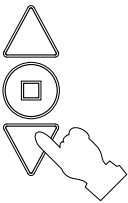
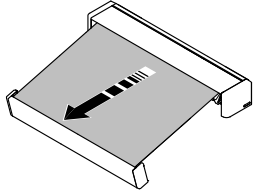
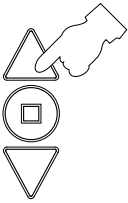
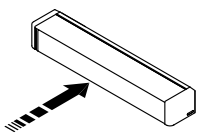

The direction of rotation of the drive is adjusted automatically after "setting the motor limit positions" ([see Page 10](#)).

During the "setting the motor limit positions" step, the drive is in "dead man's mode" ([see Page 10](#)).

Check	Is the hand-held transmitter programmed?	<div></div> <p>Press a button to wake up the hand-held transmitter.</p>	→	<div><div>WMS Hand-held transmitter basic:</div><div></div><p>If A and  are flashing orange, the hand-held transmitter is not learned in. Program the hand-held transmitter for the product (Page 7).</p></div> <div><div>WMS Hand-held transmitter plus:</div><div></div><p>If A and  are flashing orange, the hand-held transmitter is not learned in. Program the hand-held transmitter for the product (Page 8).</p></div>
Setting the motor limit positions	Waking up the hand-held transmitter	<div></div> <p>Press a button to wake up the hand-held transmitter.</p>	→	<div></div>
	Starting the setting procedure	<div></div> <p>Press the mode button briefly with a pointed object.</p>	→	<div></div> <p>The transmission LED  begins flashing.</p>
	Clearing the limit positions	<div></div> <p>Press control button A or comfort button C briefly.</p>	→	<div></div> <p>"Klack-Klack"</p> <p>The drive clicks twice.</p>
The limit positions are cleared.				

Setting the motor limit positions	Saving the lower limit position		→		Move to the lower limit position (see Tab. 1/Page 3).
			→		"Klack" The drive clicks or jerks briefly.
	Saving the upper limit position		→		Move to the upper limit position.
			→		The drive waves.
	Ending the setting procedure		→		The LED  and the transmission LED  light up for 2 seconds. Explanation of the colours: ► Green = The setting procedure was successful. ► Red = The setting procedure failed; repeat the complete procedure.
		The limit positions are set. The next step is another trial run.			

2.4 Trial run


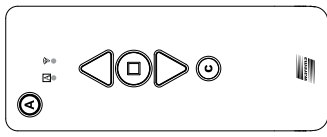










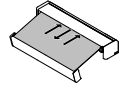







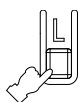

Trial run	lower limit position	 <p>Press the DOWN button briefly.</p>	→	 <p>The drive stops in the lower limit position.</p>
	upper limit position	 <p>Press the UP button briefly.</p>	→	 <p>The drive stops in the upper limit position.</p>
		<p>The trial run is completed.</p> <p>The next step is "starting the setting procedure" if the limit positions are not correct, or to connect the drive according to the wiring diagram.</p>		

3 Programming a hand-held transmitter into the product

WMS Hand-held transmitter basic (art. no. 1002953)

INFO

- Only product types of the same type can be operated with a WMS Hand-held transmitter basic.
- For programming, voltage should only be applied to one receiver.


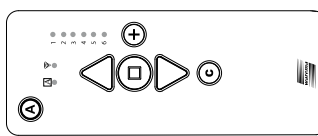
















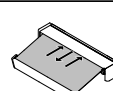
Learning in the hand-held transmitter	Waking up the hand-held transmitter	 Press a button to wake up the hand-held transmitter.		
	Starting scanning	 5 s Press the learn button for approx. 5 seconds.	→	 The transmission LED  flashes.
		Scan procedure:  →  →  The transmission LED  flashes green for 2 s = receiver is known, scan continues Transmission LED  flashes red = new recipient detected, scan is stopped, program the receiver Transmission LED  flashes orange = no receiver found, scan is finished		
	Identifying the product	 Press control button A briefly.	→	 The product waves.
	Setting the product type	 Press an arrow button  briefly.	→	 <ul style="list-style-type: none"> ► 1x flash = awning ► 2x flashes = roller shutter Automatic LED  flashes.
	Saving the allocation	 Press the STOP button briefly.	→	 Transmission LED  lights up green for 2 s. The allocation is stored.
	Ending the scan	 Press the learn button briefly.	→	 The hand-held transmitter is learned in.

Programming a hand-held transmitter into the product










WMS Hand-held transmitter plus (art no. 2016192)

INFO

- ▶ One WMS Hand-held transmitter plus can only be used to operate the same product types.
- ▶ For programming, voltage should only be applied to one receiver.

Learning in the hand-held transmitter	Waking up the hand-held	 Press a button to wake up the hand-held transmitter.		
	Selecting the channel	 Press the "Change channel" button briefly.	→	 The first programmed channel is selected (e. g. 1).
		If the desired channel cannot be selected, a new channel needs to be created first.		
		 Press the "Change channel" button for approx. 5 s.	→	 The channel LED (e. g. 1) flashes.
		 Press the "Change channel" button briefly.	→	 The channel LED (e. g. 2) is selected.
	Starting scanning	 5 s Press the learn button for approx. 5 seconds.	→	 The transmission LED  flashes.
		Scan procedure:  →  →  The transmission LED  flashes green for 2 s = receiver is known, scan continues Transmission LED  flashes red = new recipient detected, scan is stopped, program the receiver Transmission LED  flashes orange = no receiver found, scan is finished		
	Identifying the product	 Press control button A briefly.	→	 The product waves.

Programming a hand-held transmitter into the product

Learning in the hand-held transmitter	Setting the product type	 <p>Press an arrow button  briefly.</p>	→	 <ul style="list-style-type: none"> ▶ 1x flash = awning ▶ 2x flashes = roller shutter <p>Automatic LED  flashes.</p>
	Saving the allocation	 <p>Press the STOP button briefly.</p>	→	 <p>Transmission LED  lights up green for 2 s. The allocation is stored.</p>
	Ending the scan	 <p>Press the learn button briefly.</p>	→	 <p>The hand-held transmitter is learned in.</p>

4 Drive description

4.1 Drive type

The drive is designed for 230 V/50 Hz and features an electronic limit switch-off with an integrated radio receiver. The limit positions are set using a hand-held transmitter, central control unit or special WMS Studio pro PC software.



WAREMA declares herewith that the drives contained in these instructions, if they are used in accordance with these instructions, are in compliance with the basic requirements of the **Machinery Directive 2006/42/EC** and the **Radio equipment directive 2014/53/EU**. The declaration of conformity with the location and date of creation can be found under www.warema.de/ce. It contains details such as the applied standards, manufacturer and address of the person with the authorisation to sign technical documents.




4.2 Function of the drive

Limit position setting mode

In the setting mode, the drive changes to "dead man's mode". The unit only moves while a button is pressed.

Automatic assignment of direction of rotation

The direction of rotation of the drive is defined after "setting the motor limit positions". The direction of rotation of the button depends on the installation side of the drive. If the drive does not move in the desired direction after a move button  is pressed, another button needs to be used. After the procedure for "setting the motor limit positions" is ended, the direction of rotation is adjusted automatically.

Limit positions status indicator (ESI)

By stopping briefly in the direction of movement, the drive indicates that a limit position has not been learned in the selected direction of movement.

Intelligent limit position management (upper limit position)

After the third run to the system stop in the upper limit position, the closing force is adjusted.

Thermal protection

The drives used in these products are not intended for continuous operation. The integrated thermal protection switches the drive off after approx. 4 minutes. After approx. 10 to 15 minutes, the drive will be ready to operate again.

Fabric stretching adjustment

The drive always moves the distance initially set. For this reason, it is not necessary to readjust the limit positions if the fabric stretches.

Fabric tension relief

In the upper limit position, the drive moves in the opposite direction for a short distance to reduce fabric tension and thus spare the fabric.

Block detection

If the product becomes mechanically blocked, the drive stops the movement and then moves briefly in the opposite direction to release the blockage.

Status feedback

The drive notifies the control system of its current status, e.g. the thermal protection triggered. The status display depends on the control panel.

Position feedback

The drive notifies the control system of its current position.

Comfort position

An intermediate position of your choice can be stored in the drive and moved to. This is the so-called comfort position.

Intelligent routing function

The transmission range is extended by the capability of WMS components to pass information on to more distant WMS components. High transmission reliability with low interference susceptibility.


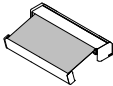




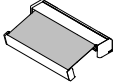
Bidirectional

The drive is both a transmitter and receiver. The user receives feedback on executed move commands on the WMS transmitter.

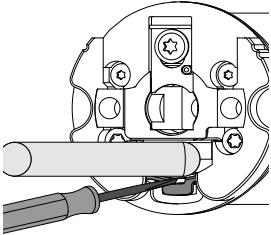
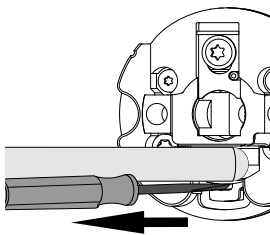
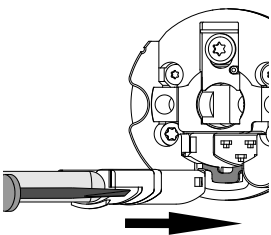

128-bit encryption

The WMS radio network is encrypted (128-bit); every radio network additionally defines a separate key for the components involved. This makes it impossible for third parties to penetrate the network and operate the unit.

5 Learning/moving to the comfort position

Comfort position	Learning	 <p>Press the UP button/DOWN button.</p>	→	 <p>Move to the desired position.</p>
		 <p>5 s Press the comfort button C for approx. 5 s.</p>	→	 <p>The transmission LED  lights up.</p> <p>Explanation of the colours:</p> <ul style="list-style-type: none"> ▶ Green = position stored ▶ Red = procedure failed
	Moving	 <p>Briefly press the comfort button C.</p>	→	 <p>The unit moves to the comfort position.</p>

6 Dismantling/mounting the pluggable motor line

Pluggable motor line	Dismantling	 <ul style="list-style-type: none"> ■ Release the catch between the snap-in bracket and the snap-in latch. 	→	 <ul style="list-style-type: none"> ■ Pull out the motor line together with the screwdriver.
	Installation	 <ul style="list-style-type: none"> ■ Insert the motor line in the motor head until the catch engages audibly. ■ Check that the line is properly engaged. 	→	

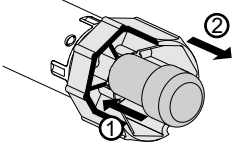
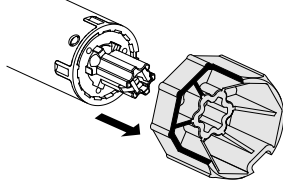
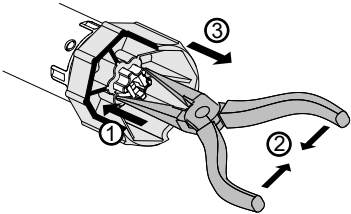
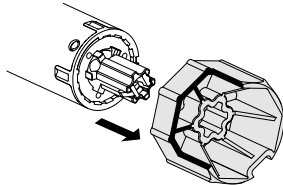
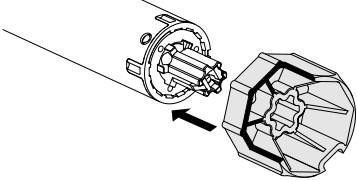
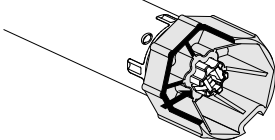
Dismantling/installation of pusher

7 Dismantling/installation of tappet



INFO

Only applies to drives with a rated torque of 8 Nm to 20 Nm.

Tappet	Dismantling	With dismantling tool (art. no. 2020967):	
		 <p>Using the dismantling tool, squeeze the catch and push the tappet over the catch.</p>	 <p>Pull the tappet off of the motor.</p>
	Dismantling	With needle-nosed pliers:	
		 <p>Using the needle-nosed pliers, squeeze the catch and push the tappet over the catch.</p>	 <p>Pull the tappet off of the motor.</p>
	Installation	 <p>Slide on the tappet.</p>	 <p>"Klack" The catch must engage audibly.</p>

8 Wiring diagram



De-energise the product and lines before connecting and secure them against being switched on again.

8.1 On-site connection with plug-in connector

On-site connection	On-site connection with clutch (STAK 3)	
		Line (recommendation: H05RR-F 4 G 0.75 bk type WAREMA)
		3 Not assigned
		2 Phase L (black)
		1 Neutral conductor (blue)
		⊕ PE conductor (green-yellow)

8.2 Motor connection with plug-in connector



INFO

Standard: the plug-in connection is connected to the motor line.

Motor connection	Motor line with connector (STAS 3)	
		Motor line (H05RR-F 4 G 0.75 bk type WAREMA)
		3 Brown (DOWN)
		2 Black (UP)
		1 Blue (neutral conductor)
		⊕ Green/yellow (PE conductor)

9 Technical data

	WMS-MM 8/17	WMS-MM 12/17	WMS-MM 20/17	WMS-MM 30/17	WMS-MM 40/17
Rated torque [Nm]	8	12	20	30	40
Output speed [rpm]	17				
Rated voltage	230 V/50 Hz				
Current consumption [A]	0.45	0.5	0.75	0.9	1.15
Power consumption [W]	100	110	160	205	260
Degree of protection	IP 44				
Safety class	I				
Short-term operation (S2)	4 min.				
Limit switch range [revolutions]	64				
Transmission frequency [GHz]	2.40-2.48				
Transmission power	< 10 dBm				



INFO

Detailed technical data can be requested from WAREMA.

10 Possible faults





INFO

To narrow down the cause of the fault, connect the test cable/programming cable and operate the product.

With the WAREMA Smart programming cable, a check can be performed without the additional activation of the hand-held transmitter.

First step: operate the product using the smart test cable/programming cable.			
	What happens?	Note	What does this mean?
	The drive is operating as expected.	In case of "Fault: The drive does not stop at the right location", this method can be used to check whether, among other thing, the fault is due to the run time being too short in the on-site controller.	The sun shading product is fault-free. The cause of the malfunction must lie with the on-site control/actuators/connecting line.
	The malfunction persists.		Further troubleshooting steps as described in the following tables.

Malfunction: The drive does not move			
	Cause	Note	Remedy
	No voltage is applied.	The transmission LED  on the hand-held transmitter lights up green and then red during operation.	Check the fuse. or Connect the test cable and operate the product with the hand-held transmitter.
	The thermal protection of the drive is active.		Wait 10 to 20 minutes for the drive to cool down.
	The on-site connection is faulty.	Check all connections (junction boxes, plug-in connectors, etc.).	Set the terminal assignment to match the WAREMA connection.
	The motor line is damaged.		Replace the pluggable motor line.
	Plug-in connection is faulty.		Check the on-site plug connector. or Check the pluggable motor line.
	The drive is faulty.		Replace the drive.
	The hand-held transmitter is located outside of the radio range of the drive.	The transmission LED  on the hand-held transmitter lights up green and then red during operation.	Change your location and operate the unit again.

Malfunction: The drive does not move			
	Cause	Note	Remedy
	The drive is not programmed for the hand-held transmitter.	Check the programming as specified in the operating instructions.	Check the programming of the transmitter.
	The wind safety function is active.	On the WMS Hand-held transmitter basic/plus, the A LED flashes during operation. The central control unit displays a crossed-out hand during operation.	Wait for the delay time of the wind monitoring.
	The ice safety function is active.	On the WMS Hand-held transmitter basic/plus, the A LED flashes during operation. The central control unit displays a crossed-out hand during operation.	Reset the ice alarm via a WMS Central transmitter. or Wait for the limit value to be exceeded by 3 °C.

Fault: The drive does not stop at the right location			
	Cause	Note	Remedy
	The motor limit positions are set incorrectly.		Readjust the motor limit positions (Page 4).
	Changes in the product over the course of its lifecycle.	These changes are in line with this type of technology.	Readjust the motor limit positions (Page 4).


Malfunction: The product stops and then briefly moves in the opposite direction.			
	Cause	Note	Remedy
	A mechanical block occurs.		Eliminate the block.

Fault: The set upper limit position is not reached			
	Cause	Note	Remedy
	Excessive wind load existed during the movement to the upper limit position.		If the wind load drops, the product moves to the set limit position when a move command is issued again.

Malfunction: In the outward direction, the drive moves in steps and in the inward direction it moves normally.			
	Cause	Note	Remedy
	The heartbeat wind safety function is active.	On the WMS Hand-held transmitter basic/plus, the A LED flashes during operation. The central control unit displays a crossed-out hand during operation.	Check the communication between the drive and sensors.

Malfunction: The drive moves in the outward direction only and moves in the inward direction in steps or in "dead man's mode".			
	Cause	Note	Remedy
	The drive limit positions are not set.		Setting the motor limit positions (Page 4).

Malfunction: The drive cannot be programmed for the transmitter.			
	Cause	Note	Remedy
	The drive is located in another WMS network.	The drive is not displayed during the scan procedure.	Delete the drive from the network (see the instructions of the hand-held transmitter).

Malfunction: The procedural mode for setting the limit positions is not started or not started on the desired drive			
	Cause	Note	Remedy
	The selected channel on the hand-held transmitter operates multiple drives simultaneously (group channel).		De-energise the other drives. or Copy the drive to its own channel (see the instructions of the hand-held transmitter).
	The hand-held transmitter is located outside of the radio range of the drive.	The transmission LED  on the hand-held transmitter lights up green and then red during operation.	Change your location and operate the unit again.
	The software version of the hand-held transmitter is too old.	There is no reaction to the short key-stroke of the mode button.	Check the software version of the hand-held transmitter (see Page 3).