HOME PILOT

EN

Smart sun and wind sensor

Installation and Operating Manual

Item no. 10771002

UM E105-2

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1. This manual...

...describes how to install and commission the Smart sun and wind sensor.

1.1 How to use this manual

- Before you begin, please read this manual through completely and follow all the safety instructions.
- This manual is part of the product. Please store it in an easily accessible place.
- When passing the Smart sun and wind sensor on to a third party, this manual must be passed on as well.
- Damage resulting from non-compliance with this manual and the safety instructions will void the warranty. We assume no liability for any resulting damage.

2. Hazard symbols

The following hazard symbols are used in this manual:

Danger area / dangerous situation

Levels of danger and signal words

⚠ ATTENTION!

This hazard may lead to property damage.

2.1 Symbols and depictions used

Depiction	Description
1. **2.**	Procedures
◆	Itemisation
1) or a)	List
	Useful information
	Please read the respective manual

The use of defective devices can lead to personal injury and damage to property.

- Never use defective or damaged devices.
- Check the Smart sun and wind sensor is intact. Consult our service department in the event that you discover damage.
- If the Smart sun and wind sensor is defective, take the associated system out of operation (e.g. the awning drive) and secure it against being switched on again until the defect has been rectified.

Improper use leads to an increased risk of injury (e.g. from crushing).

- Take due care while adjusting the associated system (e.g. awning or roller shutter) and keep people away from the moving awning or roller shutter.
- Never use the DuoFern Radio System and its components for the remote control of devices and systems with increased safety-relevant requirements or where there is an increased risk of accidents. These require additional safety devices.

3.1 Intended use

Only use the Smart sun and wind sensor to log on and control DuoFern devices.

Operating conditions

- The Smart sun and wind sensor must be installed at a minimum height of 2 metres.

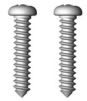
Radio systems that transmit on the same frequency can cause interference.

Dangers in the case of improper use

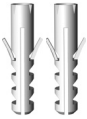
Using the Smart sun and wind sensor for any other purpose than previously mentioned is not permissible.

4. Included in delivery

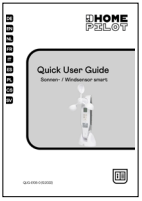
Smart sun and wind sensor



Assembly screws
(5 x 30 mm)



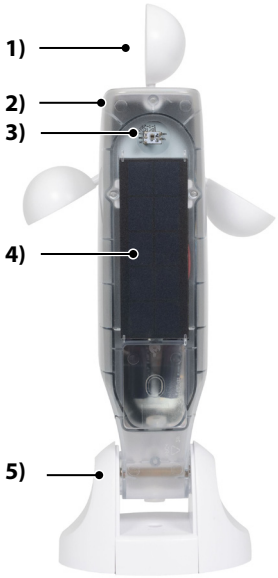
Wall plugs (8 mm)

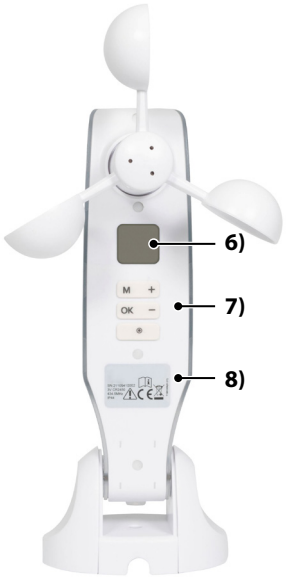


Quick User Guide

Check the contents of the packaging to make sure that they are complete and intact.

5. General view





1) Wind propeller
2) Sensor housing
3) Light sensor
4) Solar cell
5) Wall bracket

6) Display
7) Operating buttons
8) Type plate

i	**Pressing any button switches on the display, see page 11.** Then you can execute the following functions and setting.	
Button	**Function**	
	In normal mode	**In the menu**
M	*Open the menu*	*Cancel, back*
OK	*- - -*	*Confirm the setting, next*
+	*UP **	*Increase the current value*
−	*DOWN **	*Decrease the current value*
◉	*Stop **	*- - -*

** The control signal affects all of the logged-on DuoFern devices.*

5.2 Display and its symbols

☀ / ⚑	Sun / Wind
↻	Service functions, e.g. change of rotation direction
88.8	Current weather data / menus or setting parameters
)))	Radio
▭	Battery status
klux	Light intensity in klux
km/h	Wind velocity (km/h)

Pressing any button switches on the display. The current weather data (wind velocity and light intensity) is displayed alternately.

The menu items and configurable parameters are displayed in the setting menus.

If no entry is made for 2 minutes, the display turns off. The Smart sun and wind sensor then switches to standby mode.

6. Product description

The Smart sun and wind sensor can be used to control DuoFern sun shading and wind protection devices depending on the weather, e.g. awnings, roller shutters, Venetian blinds, external Venetian blinds, etc. The Smart sun and wind sensor measures the brightness and wind velocity in real time.

The Smart sun and wind sensor is powered by a solar cell. An integrated battery provides the necessary power to the device for 24 hours if there is no sun.

Safety function when the battery is discharged

If the battery does not have sufficient charge due to there being very little sunlight, the awnings or shutters are retracted and can no longer be operated when the wind function is activated. As soon as the battery is sufficiently charged again, the awnings or shutters can be operated normally again.

You can check the battery status in menu 8.3, see page 27.

7. Technical specifications

Measuring ranges	
Sun sensor:	1 klux to 99 klux / off
> Sun detected after:	10 minutes
> Shade detected after:	20 minutes
Wind sensor:	10 km/h to 99 km/h / off

General information	
Battery power reserve:	24 hours
Permissible ambient temperature:	-10 °C to 60 °C
Protection type:	IP44
Dimensions (L x W x H):	255 x 122 x 75 mm

DuoFern radio technology	
Transmission frequency:	434.5 MHz
Transmission power:	max. 10 mW
Range:	Indoors up to 20 m Outdoors up to 50 m
Maximum number of DuoFern devices:	3

8. Installation

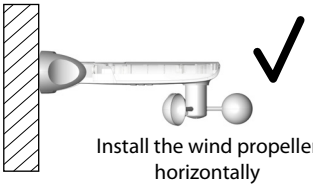
The Smart sun and wind sensor can be installed on a smooth wall or surface.

Installation requirements to ensure correct functionality:

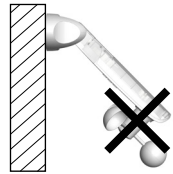
- Install the Smart sun and wind sensor in such a way that the sun and wind values can be measured easily.
- Do not install the Smart sun and wind sensor in the shade of trees and buildings or also in the lee of the wind.
- The Smart sun and wind sensor must be installed at a minimum height of 2 metres.
- The wind propeller must point downwards and be as horizontal as possible.
- The light sensor and the solar cell must point upwards.

Installation examples

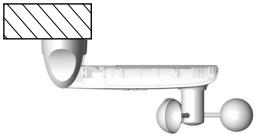
Wall installation



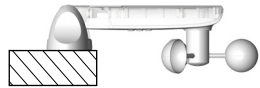
Install the wind propeller horizontally



Ceiling installation

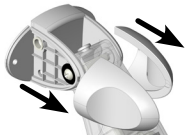


Roof installation

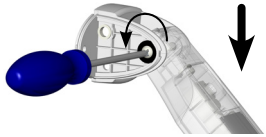


8.1 Installation sequence

1. Remove the protective caps from the wall bracket.

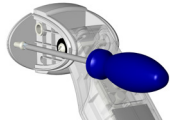


2. Loosen the fulcrum screw slightly and push down on the sensor housing.

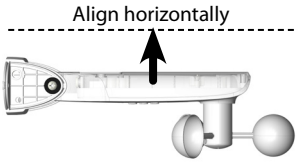


3. Mark the drill holes and drill the holes with an 8 mm drill bit.

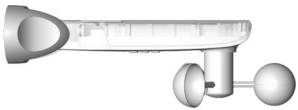
4. Install the Smart sun and wind sensor with the wall plugs and screws provided.



5. Then align the sensor housing horizontally and secure it with the fulcrum screw.
   - The solar cell must point upwards.
   - The wind propeller must point downwards.



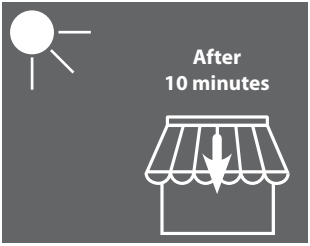
6. Finally, push the protective caps onto the wall bracket.



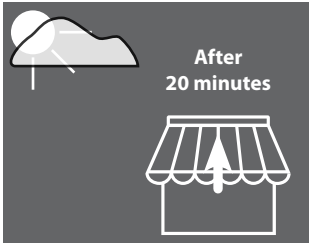
Main menu

Menu			Page
1	Sun function		17
2	Wind function		19
8	Service functions		22
	8.1	Sun / wind test functions	23
	8.2	Rotation direction test / change of rotation direction	26
	8.3	Checking the battery status	27
	8.0	Software version	28
9	Logging DuoFern devices on/off		29
	◆	Logging devices on	30
	◆	Logging devices off	32
	◆	Clear-up	34
	◆	Deleting all DuoFern devices	35

Sun function



The awning extends or the shutter closes completely.



The awning retracts or the shutter opens.

The sun function can only be used for sun shading actuators. It may be necessary to set a **running time** on the actuator so as to be able to use the sun function.

The **sunshine position** of the logged-on actuators is automatically set to **100 %** by the Smart sun and wind sensor.

Configuring or accepting the set limit

1. If the display is off, turn it on by pressing any button.

2. M > + / −

Select menu 1.

3. OK

Open the menu.

4. + / −

Configure the set limit.

Setting range:

1 to 99 klux

> 99 klux = **OFF** Sun function off

or

◉

Pressing and holding the stop button accepts the currently measured brightness as the set limit.

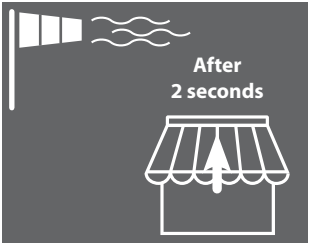
5. OK

Confirm the setting and return to the menu.

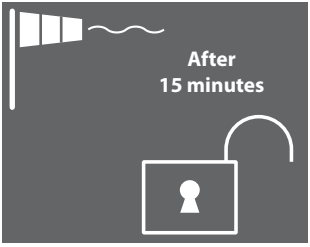
6. M

Back to the standard display.

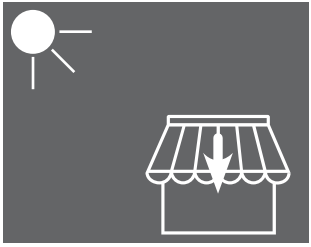
Wind function



The awning retracts and is blocked.



The block is lifted as soon as the value drops below the set limit for 15 minutes.



If the sun function is active, the awning extends again when the sun set limit is exceeded.

If the awning was previously manually extended, it remains retracted after the value drops below the wind set limit. Automatic movement commands, which were received during the wind block, are resumed after the value drops below the set limit.

Configuring or accepting the set limit

1. If the display is off, turn it on by pressing any button.

2. M > + / − Select menu 2.

3. OK Open the menu.

4. + / − Configure the set limit.
   Setting range:
   10 to 99 km/h
   > 99 km/h = **OFF** Wind function off

5. OK Confirm the set limit and return to the menu.

6. M Back to the standard display.

Wind velocity in various units

Description	m/s	km/h	Wind strength (Beaufort)
Calm	< 0.3	< 1.1	0
Almost calm	0.3 - 1.5	1.1 - 5.4	1
Very light wind	1.6 - 3.3	5.5 - 11.9	2
Light wind	3.4 - 5.4	12.0 - 19.4	3
Moderate wind	5.5 - 7.9	19.5 - 28.4	4
Fresh wind	8.0 - 10.7	28.5 - 38.5	5
Very fresh wind	10.8 - 13.8	38.6 - 49.7	6
Strong wind	13.9 - 17.1	49.8 - 61.5	7
Very strong wind	17.2 - 20.7	61.6 - 74.5	8
Storm	20.8 - 24.4	74.6 - 87.8	9
Heavy storm	24.5 - 28.4	87.9 - 102.2	10
Hurricane-like storm	28.5 - 32.6	102.3 - 117.3	11
Hurricane	< 32.6	< 117.3	12

The following service functions are available:

- Menu 8.1 Sun and wind test functions
- Menu 8.2 Rotation direction test and change of rotation direction
- Menu 8.3 Display the battery status
- Menu 8.0 Software version

The test functions are used to check the connection and the settings of the controlled device.

The sun and wind test functions operate with reduced set limits for the duration of the test:

- Sun = 10 klux
- Wind = 10 km/h

The test functions should be used after the initial commissioning.

1.

Retract all logged-on awnings or shutters completely (e.g. with a remote control).

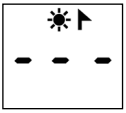
2. If the display is off, turn it on by pressing any button.

3. M > + / −

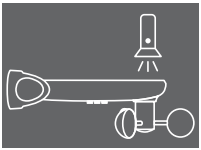
Open menu 8 and select menu 8.1.

4. OK > + / −

5. OK



Open menu 8.1.

6. 

Light up the light sensor, e.g. with a bright torch.

If the test set limit is exceeded, the sun symbol flashes on the display.

7.

After 5 seconds, all awnings extend and/or the shutters close.

8. **15 seconds** — As soon as the torch is switched off, all awnings retract and/or the shutters open after 15 seconds.

9. OK or M — exit the test mode and return to menu 8 "Service functions".

If the sun function does not work as intended, you can find more information on page 29.

1.

Extend all logged-on awnings or shutters slightly (e.g. with a remote control).

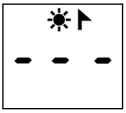
2. If the display is off, turn it on by pressing any button.

3. M > + / −

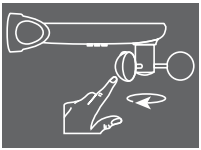
Open menu 8 and select menu 8.1.

4. OK > + / −

5. OK



Open menu 8.1.

6. 

Turn the wind propeller quickly by hand.

If the test set limit is exceeded, the wind symbol flashes on the display.

7.

After 2 seconds, all awnings retract and/or the shutters open.

8. OK or M

exit the test mode and return to menu 8 "Service functions".

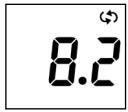
12.3 Menu 8.2 - Rotation direction test / change of rotation direction

EN

1. If the display is off, turn it on by pressing any button.

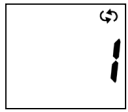
2. M > + / −

3. OK > + / −



Open menu 8 and select menu 8.2.

4. OK



Open menu 8.2.

The number of the selected tubular motor or actuator flashes on the display. The number corresponds to the log-on sequence.

5. + / − > OK

Select the tubular motor/actuator to be tested and confirm with **OK**.

6. + / −

Test the rotation direction.

- \+ Extend the awning/close the shutter
- − Retract the awning/open the shutter
- ◉ Stop command

Changing the rotation direction as required

7. + −

Press both buttons simultaneously. Note the feedback or confirm the tubular motor or actuator.

8. **Point 1 to 6**

Repeat the rotation direction test.

9. OK or M

return to menu 8 "Service functions".

12.4 Menu 8.3 - Checking the battery status

1. If the display is off, turn it on by pressing any button.
2. M > + / −
3. OK > + / −

Open menu 8 and select menu 8.3.

4. OK

Open menu 8.3.

The current charge of the battery is shown in %.

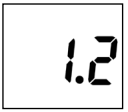
5. OK or M

return to menu 8 "Service functions".

1. If the display is off, turn it on by pressing any button.
2. M > + / −
3. OK > + / −

Open menu 8 and select menu 8.0.

4. OK



Open menu 8.0.

The current software version is displayed (example).

5. OK or M

return to menu 8 "Service functions".

13. Menu 9 - Logging DuoFern devices on/off

In this menu you can log DuoFern devices on and off from the Smart sun and wind sensor. The menu also provides the "**Clear-up**" option to remove unavailable devices from the Smart sun and wind sensor.

To do so, please also read the operating manual of the respective DuoFern device.

Maximum number of logged-on devices

You can log a maximum of 3 DuoFern devices on to the Smart sun and wind sensor.

Further information about logging on can be obtained from our website at:

www.homepilot-smarthome.com

Conditions of use for the sun function

In order for the sun function of the Smart sun and wind sensor to work, the following functions must be configured on some DuoFern devices (preferably before logging on!):

- Total running time
- If the device has a connection option for its own sun sensor, set the mode to "External sun sensor"
- Sunshine position (recommendation: 100 %)
- Activate the automatic sun function

These settings are usually not required for more recent flush-mounted actuators/tubular motors.

These settings must be checked for devices that have a display or can be operated in a normal installation situation.

13.1 Logging on devices

1. If the display is off, turn it on by pressing any button.

2. M > + / −

Select menu 9.

3. OK

Open menu 9.

The number of logged-on DuoFern devices is displayed.

4. Switch the desired DuoFern device to log-on mode.

5. +

Start the log-on process on the Smart sun and wind sensor.

The log-on process remains active for a maximum of 2 minutes.

5.1

After successfully logging on, the number of logged-on DuoFern devices is updated on the display.

6. OK or M

the log-on process is terminated after successfully logging on or by pressing the button.

Continue, see next page.

After successfully logging on, the Smart sun and wind sensor configures the following settings on the newly logged-on device, see next page:

- Automatic wind function is activated
- Wind movement direction UP/Retract
- Automatic sun function is activated
- Sunshine position set to 100 %

The motor will therefore move several times during the log-on process.

Behaviour in the event of a failed log-on

In the event of an error, the message "**Err**" appears and the log-on process is terminated.

Error causes: The maximum number of logged-on DuoFern devices has been reached or an attempt has been made to log on an unsuitable device.

13.2 Logging off devices

1. If the display is off, turn it on by pressing any button.

2. M > + / −

Select menu 9.

3. OK

Open menu 9.

The number of logged-on DuoFern devices is displayed.

4. Switch the desired DuoFern device to log-off mode.

5. −

Start the log-off process on the Smart sun and wind sensor.

The log-off process remains active for a maximum of 2 minutes.

5.1

After successfully logging off, the number of logged-on DuoFern devices is updated on the display.

6. OK or M

the log-off process is terminated after successfully logging off or by pressing the button.

Continue, see next page.

Behaviour in the event of a failed log-off

In the event of an error, the message "**Err**" appears and the log-on process is terminated.

Error causes: An attempt was made to log off a device that is not logged on.

13.3 Clear-up

This function enables you to log off all DuoFern devices that are no longer available by radio from the Smart sun and wind sensor.

1. If the display is off, turn it on by pressing any button.

2. M > + / −

Select menu 9.

3. OK

Open menu 9.

The number of logged-on DuoFern devices is displayed.

4. + **4 seconds**

Start the clear-up process. To do this, press and hold the button for 4 seconds.

All logged-on devices are then retrieved. Unavailable devices are logged off.

4.1

After successfully logging off, the number of logged-on DuoFern devices is updated on the display.

4.2

As soon as the number stops flashing on the display, the clear-up process is terminated.

5. OK **or** M

return to the main menu.

13.4 Deleting all DuoFern devices

1. If the display is off, turn it on by pressing any button.

2. M > + / −

Select menu 9.

3. OK

Open menu 9.

The number of logged-on DuoFern devices is displayed.

4. − 4 seconds

Press and hold the button for 4 seconds.

All logged-on devices are deleted.

4.1

Display after all devices have been deleted.

5. OK or M

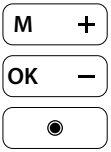
return to the main menu.

14. Reset (factory settings)

This function can be used to completely reset the Smart sun and wind sensor to the factory settings.

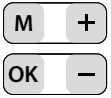
All previous settings and logged-on DuoFern devices are deleted.

1.



Press any button to turn on the display.

2.



Press and hold all 4 buttons simultaneously.

Then all data is reset to the **factory settings**:

Set limits:

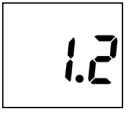
- Sun	60 klux
- Wind	18 km/h

Logged-on DuoFern devices: none

2.1

To confirm this, all symbols and segments are shown on the display.

3. Release the four buttons again.



The **software version** is then briefly displayed. The standard display then appears again, see point 1 above.

15. Cleaning and care

The function of the Smart sun and wind sensor can be affected by environmental influences:

- For example, dust or bird droppings on the top of the housing can impair the solar cell and obscure the light sensor.
- A dirty wind propeller will no longer turn smoothly and may result in incorrect measurement results.

For the safe operation of the Smart sun and wind sensor, it is important that it remains as clean as possible and that the wind propeller can be moved easily:

- Clean the Smart sun and wind sensor regularly with a mild soapy solution.
- Check the wind propeller regularly to ensure it moves easily.
- Carry out a regular function test for the sun and wind function, see page 23 / 25.

16. Simplified EU declaration of conformity

DELTA DORE RADEMACHER GmbH hereby declares that the Smart sun and wind sensor complies with the Directive **2014/53/EU (Radio Equipment Directive)**.

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Warranty terms and conditions

Information on the warranty conditions is enclosed with the product.

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