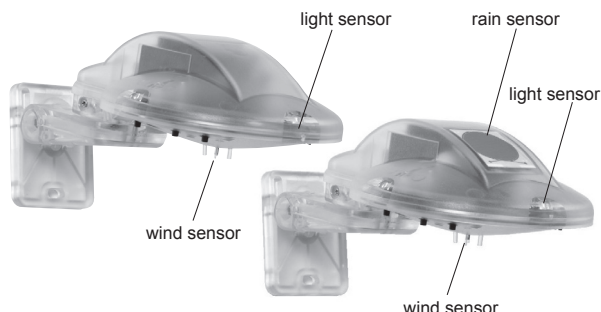
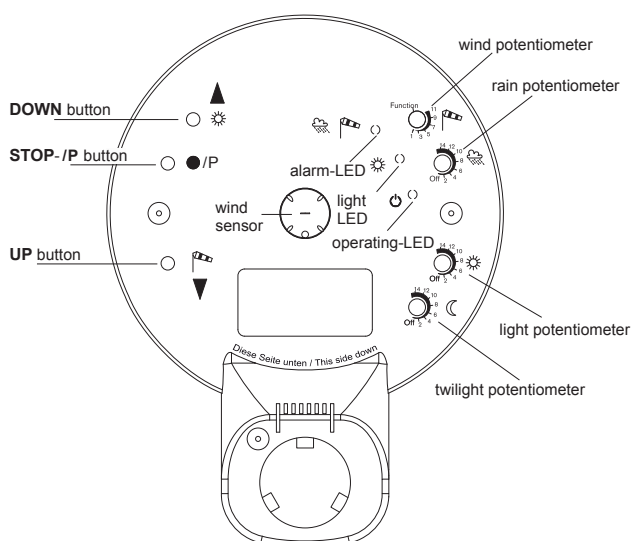




EN Installation instructions (translation)



Underside of the device



The Sensero AC is a sun/twilight and wind sensor for sun protection systems.

The Sensero AC Plus additionally has a rain sensor.

Signal transmission between the Sensero and the receiver is via a radio link.

Note

The device will only work in connection with compatible radio receivers from the range of the elero radio system.

Manual operation of the system is carried out with a hand-held/wall transmitter. This item is not included in the scope of delivery.

Safety instructions



The instructions must be observed in order to ensure the product can be operated smoothly and safely and its properties can be fully realised.

- The operator/user must have completely read and understood the instructions.
- The operator must ensure that the operating instructions are made available to the user in a legible form.
- The operator must ensure that all safety measures are observed and met.
- The following safety and assembly instructions apply to the device and not to the accessories and drive.

Failure to observe these can cause physical injury!

→ Observe all safety instructions!

- Never install or take into operation devices which are damaged.
- Only use unmodified and compatible original parts.
- If the device is opened without permission or used in an improper manner, or if it is incorrectly installed or operated, there is a risk of damage to persons and property.
- The device contains small parts which can be swallowed.

Transport

- Should you receive the device in a damaged condition despite proper packaging, you must not put it into operation. Complain about the damage to the transport company immediately.

Installation

- Observe the regulations during installation.
- The device may only be used by persons who have read and understood the instructions.

Operation

- If transmitters are used for controlling the system, its operating range must stay visible during operation.
- Keep control systems out of the reach of children and the disabled.

Safety instructions for radio operation



Observe all safety instructions for radio operation!

Only use radio systems which are approved and can be operated without interference.

- The radio systems must not be operated in areas where there is a heightened risk of interference (e.g. hospitals, airports).
- The remote control is only approved for devices and systems for which any malfunction of the transmitter or receiver would not result in a risk for persons, animals or property, or if such a risk is covered by other safety equipment.

- The operator has no protection whatsoever from interferences by other telecommunication installations and local terminals (e.g. also from radio installations) that are normally used on the same frequency range.
- The range of the radio signal is limited by statutory regulations and the structural conditions.
- Only use radio receivers with equipment and units approved by the manufacturer.
- Using a number of receivers may cause interference. Therefore, maintain a minimum distance of 15 cm between the receivers.
- Before installing the unit at the specified position, check the proper function of the device and the receiver.

Intended use

The device must only be used to control awnings, venetian blinds and roller shutters.

Third-party devices should only be connected after consultation with your specialised dealer.

Other use, or use beyond this is not considered to be use for intended purpose.

Exclusion of liability

elero GmbH assumes no liability for personal injuries, property damage and financial losses which arise from modifications to the device, improper use and a failure to observe the instructions. Liability for material defects is excluded in such cases.

Definition of terms

In these instructions, the term "device" is used to describe the Sensero.

For "down" or "closed" (closing, moving down etc.), "**Down**" is used; for "up" or "open" (opening, retraction etc.), "**Up**" is used in accordance with the designation of the buttons.

Scope of supply

Sensero, 1 wall bracket, 3 dowels, 5 screws, 1 nut

Accessories

Corner or mast support: Item Number 242690202v



Technical data

Operating voltage	230 V/50 Hz
Temperature range	-20 °C to +60 °C
IP Code	IP 44
Radio frequency	868 MHz frequency band
Standby consumption	2 W (Sensero AC) 2 to 7 W (Sensero AC Plus)
Weight	630 g
Dimensions	L 205 x W 125 x H 105 mm

For USA, Canada, Australia, and some South American countries, the following values apply:


Radio frequency	915 MHz frequency band
-----------------	------------------------

Electrical connection

 	WARNING!
	Risk of injury due to electrocution! → Connections must be performed by an authorised specialist!


1. Switch off the mains voltage.
2. Connect the cables of the device according to colour:
blue = N
black = L
3. Switch on the mains voltage.

The green operating LED indicates readiness for operation.

	NOTICE!
	Caution - Very Hot! Risk of burns if touched! The rain sensor is hot when operating! → Do not touch the rain sensor!

Mounting

There are several options for mounting.

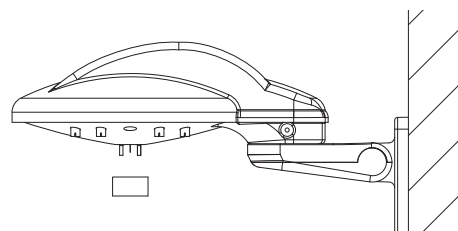
	CAUTION!
	Downwinds on the façade can lead to destruction of the device! The device is not able to detect these winds. → Do not mount the device under a jutting.

Note

For correct wind measurement, mount the device at the façade in a position that allows it to catch all wind directions.

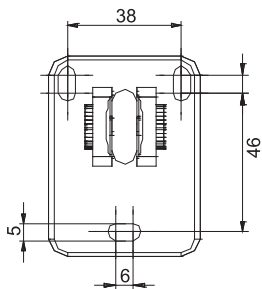
Note

After mounting, remove the red cover cap from the wind sensor.



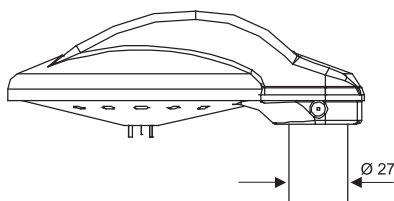
Wall bracket

The device can be fastened to the upper side of the roof or to the façade using the tilting wall bracket.



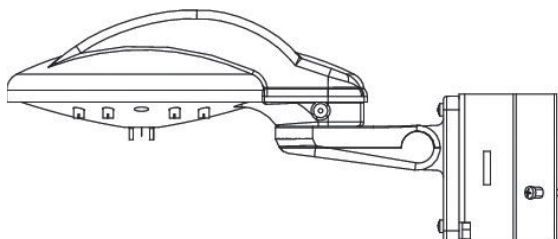
Mast support

As an alternative, mount the device to a mast of 27 mm diameter.



Corner or mast support

Use the corner or mast support to attach the device to the corner of the façade or to the mast.



Setting the mode (awning, protection against prying eyes, roller shutter)

The device can be operated in three different modes.

You can select the modes as follows:

1. Turn the wind potentiometer to Function.
2. Keep the UP and DOWN buttons pressed for at least 3 seconds. Press the two buttons until the device is in the desired mode.

The flashing alarm LED indicates the mode of the device:

- Red alarm LED flashes once → Awning mode
- Red alarm LED flashes twice → Protection against prying eyes mode
- Red alarm LED flashes 3x → Roller shutter mode

The set mode is displayed at each radio transmission by the flashing of the operating LED (LED flashing signal 1x per minute).

Turn the rotary potentiometer from Function back to a value selected by you.

The awning mode is set as standard in the delivery condition. OEM versions may also be set to a different mode.

Note

- Wind commands are executed in every mode.
- The wind interlock is active for 15 to 17 minutes.

Awning mode

Requirement

Twilight function is switched off. (Twilight potentiometer is on Off)

The awning will be retracted automatically when the current sensor measured value changes from 1 to 0 (late in the evening) or when the current light sensor measured value changes from 0 to 1 (early in the morning).

Protection against prying eyes mode

Requirement

The light threshold value must be set to 2 or higher.

To keep the blind closed even in the evening, close the blind manually using a hand-held transmitter or an elero timer.

The current transitions of the light sensor measured values from 1 to 0 (late in the evening) or from 0 to 1 (early in the morning) will be ignored.

The blind will remain closed throughout the night. The travel commands such as tilting position (venetian blind) or ventilation position (roller shutter) will be executed automatically the next day.

Roller shutter mode

Requirement

The light threshold value must be set to 2 or higher.

Note

Support for the roller shutter mode is dependent on the software version of the receiver.

If the roller shutter is driven manually by a timer or the twilight function to the lower end position, the light function (driving according to set light value) will be switched off.

The current transitions of the light sensor measured values from 1 to 0 (late in the evening) or from 0 to 1 (early in the morning) will be ignored.

You can switch on the light function again in several different ways:

- by means of a manual UP travel command to the upper end position
- by means of an automatic timer command to the upper end position
- by using the hand-held transmitter to switch from AUTOMATIC mode to MANUAL mode and back to AUTOMATIC mode.

Programming the device

Requirement

The end positions of the drive have been set. One transmitter has been programmed.

1. Move the blind to the centre position.
2. Press and hold the **UP/DOWN** and **P** buttons on the hand-held/wall transmitter simultaneously for at least 3 seconds.
3. Keep the STOP/P button pressed for 3 seconds until the green operating LED flashes fast. When the device is in programming mode, the operative LED flashes fast each time you press a button.
4. The blind moves up and down for 2 minutes.

- Press the **UP** button at the device immediately after the start of upward travel. The drive will stop briefly.
- Press the **DOWN** button at the device immediately after the start of downward travel. The drive will stop.
You have successfully programmed the device.

Symbols at the device

Alarm LED (red)	
Light LED (yellow)	
Operating LED (green)	
Wind	
Rain	
Twilight	
DOWN button	
UP button	
STOP /P button	

Setting the threshold values

There are rotary potentiometers at the underside of the device. You can set the threshold values in steps using the rotary potentiometers.

	OFF	The light function is switched off
	Level 1	Travel down at a low light level
	Settings 2 to 14	Intermediate levels
	Level 7	Factory setting
	Level 15	Travel down at a high light level
	Level 1	Travel up at low wind speed
	Settings 2 to 10	Intermediate levels
	Level 4	Factory setting
	Level 11	Travel up at high wind speeds
	OFF	The rain function is switched off
	Level 1	Travel up at a low rain level
	Settings 3 to 14	Intermediate levels
	Level 15	Travel up at a high rain level
	Level 2	Factory setting (Sensero Plus)
	OFF	The twilight function is switched off Factory setting
	Level 1	Travel down at darkness
	Settings 2 to 13	Intermediate levels
	Level 14	Travel down at start of twilight

Note

The factory settings for OEM devices may differ from the above.

LED flash signals

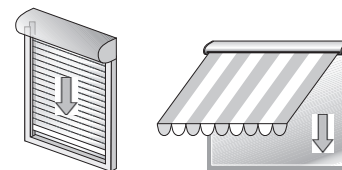
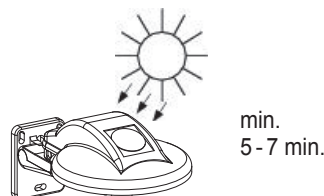
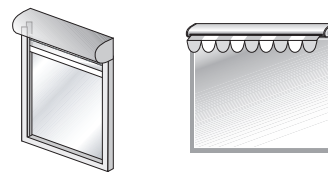
Light LED (yellow) shines	Light value reached or exceeded, or twilight value reached or undercut
Light LED (yellow) flashes constantly	Flashes for the duration of the delay time: light value undercut
Alarm LED (red) shines	Measured wind value or rain value reached or exceeded
Alarm LED (red) flashes constantly	Delay time. Wind value or rain value undercut
Operating LED (green) goes out once	Device transmits in awning mode
Operating LED (green) goes out twice	Device transmits in protection against prying eyes mode
Operating LED (green) goes out 3x	Device transmits in roller shutter mode
All LEDs flash	A sensor is defective or wet

Light function

The light intensity is measured by the integrated light sensor and compared to the threshold value.

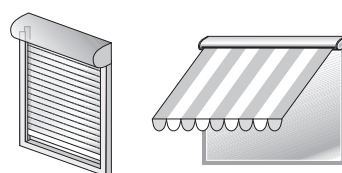
Requirement

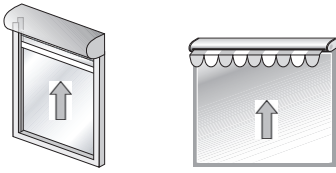
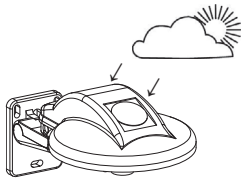
The blind is raised.



The sun shines on the sensor for no less than 5 to 7 minutes. The measured light value reaches or exceeds the set threshold value.

The yellow light LED lights up. After a short delay (5 to 7 minutes), the blind will travel down. The weather situation is changing. The measured light value falls below the set threshold value.





After a delay of 15 to 17 minutes, the blind will travel up.
 The yellow light LED flashes during the delay time.
 Use the HAND/AUTO switching function at the programmed hand-held/wall transmitter to enable or disable the light function.

Checking the light function (test mode)

Requirement

The blind is raised.

In the test mode the delay times are shortened from minutes to seconds. In this way, the travel movements of the system can be tested when the set threshold value is exceeded or undercut.

1. Press and hold the **UP** button for at least 3 seconds until the green operating LED flashes.

	WARNING!
	<p>Risk of injury by downwards travel of awning, roller shutter, or venetian blind!</p> <p>The test mode is active for 5 minutes. This time cannot be shortened.</p> <p>→ Keep away from the operating range of the system.</p>

2. Shine a torch on the light sensor.

A) The set light value is reached or exceeded.	The yellow light LED shines. The blind travels down immediately.
B) Less light. The set light value is now undercut.	The yellow light LED flashes and goes out after 15 seconds. The blind travels up after 15 seconds.

You can repeat the operation as often as you want within 5 minutes.

Wind function

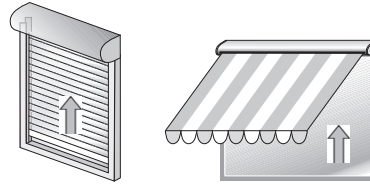
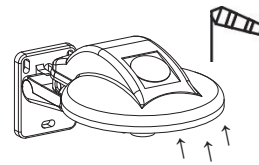
The wind speed is measured by the integrated wind sensor and compared to the threshold value.

The wind signal is an emergency signal, hence the wind function is always active.

Requirement

The blind is retracted.

The measured wind value exceeds the set threshold value; the wind signal is triggered.



Blocked for 15 to 17 min.

The blind moves up and remains raised for a minimum of 15 to 17 minutes.

Red alarm LED shines.

The travel keys at the device are blocked.

The red alarm LED flashes during the delay time.

As long as the system is blocked, it is not possible to move the blind down via a hand-held transmitter.

The block will be cancelled after the actual wind value has undercut the threshold for 15 to 17 minutes.

Checking the wind function (test mode)

Requirement

The blind is raised.

In the test mode the delay times are shortened from minutes to seconds. In this way, the travel movements of the system can be tested when the set threshold value is exceeded or undercut.

1. Press and hold the UP button for at least 3 seconds until the green operating LED flashes.

	WARNING!
	<p>Risk of injury by downwards travel of awning, roller shutter, or venetian blind!</p> <p>The test mode is active for 5 minutes. This time cannot be shortened.</p> <p>→ Keep away from the operating range of the system.</p>

2. Use the hand-held transmitter to bring the blind to the centre position.

3. Blow on the wind sensor.

A) The set wind value is reached or exceeded.	Red alarm LED shines. The blind travels up immediately.
B) Blow with less force. The set wind value is now undercut.	The red alarm LED flashes for 15 seconds.

You can repeat the operation as often as you want within 5 minutes.

Rain function

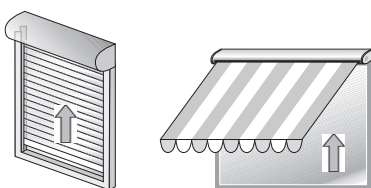
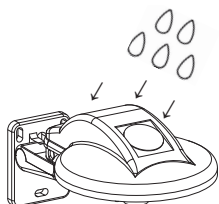
The integrated rain sensor in the Sensero AC Plus measures the rain volume and compares it to the threshold value.

	CAUTION!
	Caution - Very Hot! Risk of burns if touched! The rain sensor is hot when operating! → Do not touch the rain sensor!

Requirement

The blind is retracted.

The measured rain value exceeds the set threshold value.



15-17 min.
sensor drying phase

The blind moves up and remains raised for 15 to 17 minutes.
Red alarm LED lights steadily.

The travel keys at the device are blocked.

The red alarm LED flashes during the delay time.

After 15 to 17 minutes, the drive may be retracted via the automatic transmitter.

Retracting via the hand-held transmitter is possible at any time.

If the blind was retracted via a transmitter within the blocked period (15 to 17 minutes), automatic raising of the system in case of rain will be possible at the earliest one hour after retraction.

Checking the rain function (test mode)


Only available with AC Plus.

Requirement

The blind is retracted.

In the test mode the delay times are shortened from minutes to seconds. In this way, the travel movements of the system can be tested when the set threshold value is exceeded or undercut.

1. Press and hold the UP button for at least 3 seconds until the green operating LED flashes.

	WARNING!
	Risk of injury by downwards travel of awning, roller shutter, or venetian blind! The test mode is active for 5 minutes. This time cannot be shortened. → Keep away from the operating range of the system.

2. Use the hand-held transmitter to bring the blind to the centre position.
3. Moisten the rain sensor.

The set rain value is reached or exceeded.	Red alarm LED shines. The blind travels up immediately.
Stop moistening the rain sensor. The set rain value is now undercut.	The red alarm LED flashes for 15 seconds.

You can repeat the operation as often as you want within 5 minutes.

Deleting a programmed sensor

(Not possible in the Function position).

Press the UP and DOWN buttons simultaneously for at least 3 seconds.

The green operating LED goes out briefly.

The device is now deleted from all receivers within range.

Maintenance

The device must be freely accessible and must not be overgrown by vegetation.

The device is maintenance-free, however the cover must be cleaned from time to time using a moist cloth.

	CAUTION!
	Caution - Very Hot! Risk of burns if touched! The rain sensor is hot when operating! → Do not touch the rain sensor!

Disposal

After final utilisation, dispose of the device pursuant to the applicable regulations.

Troubleshooting

Fault	Cause	Remedy
The blind travels up automatically in manual mode	The wind or rain alarm is active.	Wait until the delay time has elapsed (15 minutes).
	The rain sensor is dirty.	Clean the rain sensor.
	Poor radio connection	Change the position of the device.
	Voltage supply is interrupted.	Check the voltage.
No travel command can be issued via the hand-held transmitter	The wind alarm is active.	Wait until the delay time has elapsed (15 minutes).
	The batteries in the hand-held transmitter are flat.	Change battery
	Motor has no power supply or is overheated	Check power supply or allow motor to cool down.
The blind does not travel up when it is windy.	WIND threshold value is set incorrectly	Adjust the WIND threshold value.

Fault	Cause	Remedy
The blind doesn't travel down in response to sunshine	The LIGHT threshold value is not exceeded.	Adjust the LIGHT threshold value
	Wind alarm is active	Wait until the delay time has elapsed (15 minutes).
	Rain alarm is active	Wait until the delay time has elapsed (15 minutes).
	Roller shutter mode is not supported by the receiver.	Change the mode
	The transmitter is set to MANUAL mode.	Set the transmitter to AUTOMATIC mode.
	Poor radio connection	Change the position of the device.
	Light sensor is dirty	Clean light sensor
The device cannot be programmed to recognize the receiver	Device is already programmed	Delete the device and re-program it
	Poor radio connection	Change the position of the device.
The blind doesn't travel down in response to darkness	The twilight threshold value is set incorrectly.	Adjust the twilight threshold value.
	The twilight function is not supported by the receiver.	Use a different receiver.
The blind travels down when it is windy.	Device is improperly programmed	Delete the device and re-program it
All LEDs flash	Wind sensor is wet; device is defective	Allow the wind sensor to dry

Repair

Please contact your dealer if you have any queries.

EC Declaration of conformity

EC-DECLARATION OF CONFORMITY

We hereby declare that the following mentioned product/s meet/s the standards of the European Community.

Product designation: **ProLine 2**

- Lumo-868 all versions
- Lumero-868 / -915 all versions
- Aero-868 / -915, Aero-868 / -915 Plus, Aero-868 / -915 AC all versions
- Sensero-868 / -915 AC, Sensero-868 / -915 AC Plus all versions

Description:

Sun, dusk, wind and rain sensors with bidirectional and unidirectional radio-based sensor system.

Can be used in conjunction with controllers for opening and closing roller shutter and other shading systems as well as other actuators.

The conformity of the above mentioned products with the relevant health and safety requirements is taken into account by the following directives and standards:

- EMC Directive 2004/108/EC
EN 61000-6-2:2005, EN 61000-6-3:2001
EN 60730-1:2000, EN 60730-2-7:1991
- Low Voltage Directive 2006/95/EC
EN 60335-1:2002
- R&TTE Directives 1999/5/EC
ETSI EN 301 489-3 V1.4.1
ETSI EN 300 220-2 V2.1.2
- RoHS Directive 2002/95/EC

Beuren, 05.07.2012



Ralph Trost
-CE Manager-, -Representative documentation -