VRS WISO Crystal Control

Art.-no.: 01180002

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Combined radio-controlled wind/lux sensor and control incl. mounting bracket.

Installation and Operating Instructions

Short description

- Combined wind/lux sensor and control
- Crystal shank contains lux sensor and control
- Compatible with all Vestamatic motors of VRS-Line VL-ME-WISO-35/45

Safety precautions

⚠
- Contact a professional electrician to install the control system, because the control system requires a power supply of 230VAC, 50 Hz.
- Check the control system for signs of mechanical damage after unpacking. If you notice any shipping damage, do not start up the control system and notify your supplier immediately.
- The control system should only be used for the purpose specified by the manufacturer (refer to the operating instructions). Any changes or modifications thereof are not permissible and will result in loss of all warranty claims.
- If the control unit or the connected sunshade cannot be operated without presenting a hazard, it must be switched off and prevented from being switched on unintentionally.
- When performing work on the windows, controls or connected shades, protect them against unauthorised or unintentional operation.
- When setting the wind speed threshold value on your awning controls, make sure that it is consistent with the wind gauge 1 wind meter values.

Technical data

Power supply:	12VDC, 25mA, 0,3W
Impulse voltage withstand level:	2.5 kV
Radio frequency	868 MHz
Wind speed sensor:	
Measuring range:	3...17 m/s
Lux sensor:	
Measuring range:	0...40 kLux
Operating temperature:	-15 °C (+5 °F) to +60 °C (140 °F)
Protection degree:	IP 54
Material (plastic parts):	UV-stabilised polycarbonate
Conformity:	CE

Disposal of waste

The disposal of electrical equipment and batteries in household waste is strictly forbidden.

The symbol (dustbin crossed out, in line with WEEE Appendix IV) indicates separate collection of electrical and electronic products in EU countries. Do not dispose of the device or battery in your household waste. Ask your town or local council about the return and collection systems available in your area to dispose of this product.

Conformity

This product conforms to the basic requirements of the R&TTE Directive 1999/5/EC. The Declaration of Conformity can be found on the web page: **www.vestamatic.com**

Assembly and installation

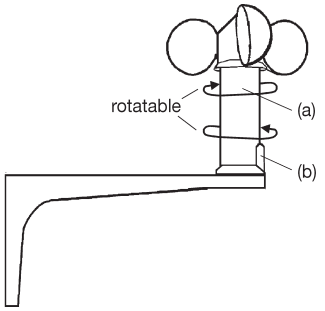
The sensor unit must be installed and connected by a professional electrician.

1. When deciding where to install the sensor unit, ensure that the wind speed and sun intensity readings, taken at the mounting location, are similar to those, taken on the shading device.

⚠ **WARNING!**
Do not mount the sensor unit in the shade, or shelter, of the extended shading device. The wall mount should be attached with the sensor unit column pointing upwards as shown in figure 1.

2. Attach the wall mount using the supplied installation kit.
3. Connect the power supply cable to the sensor cable according to the wiring diagram.
4. If necessary, adjust the sensor unit (a) so, that together with the lux sensor (b), it captures maximum sun intensity.

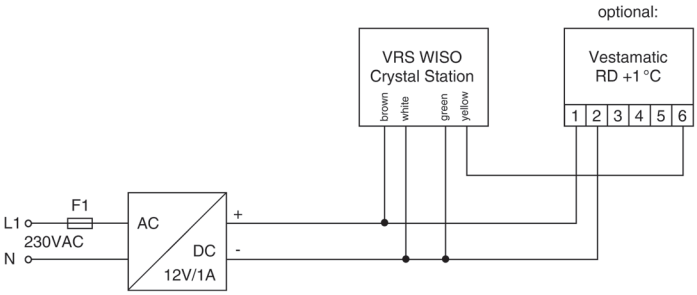
Figure 1



⚠ **WARNING!**
Risk of injury due to improper installation and commissioning.
Improper installation and commissioning may lead to personal injury or property damage.

Therefore:
- When connecting the device, observe the currently valid VDE standards (in particular DIN VDE 0100/0700), your local power company's regulations and the current accident prevention regulations.
- Connect the control in accordance with the wiring diagram.

Wiring diagram



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Subject to modifications.

Additional accessories

The control can be connected to a rain sensor.

- Rain sensor RD +1 °C (32 °F), Article-no.: 010830

The rain sensor will retract the sunshades and protect against rain and frost.

Sensors and functionality

The control includes a wind sensor and a lux sensor, and is paired to one or many Vestamatic VRS motors. The motor can also be paired with several wall transmitters or 5 channel transmitters at the same time.

The sensor will send commands to the motor and will retract or extend your sunshades depending on the sun and wind conditions.

Wind sensor: If the wind speed exceeds the threshold value, the sunshade will retract in order to avoid damage. At this point it's not possible to control the motors with your local VRS transmitters.

Lux sensor: If the measured sun intensity exceeds the threshold value, the sunshade will extend the sunshade completely or to a specific individual position. This specific position can be individually set on all motors.

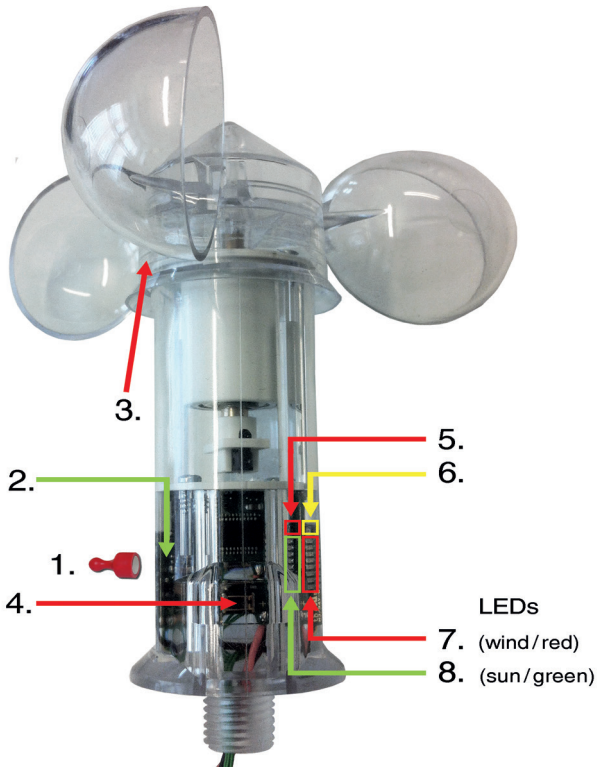
Rain sensor: If a rain sensor is connected, sunshades will be retract if rain is detected. (Optional sensor)

Overview operating elements

The sensor should be wall-mounted, and a magnet should be used to configure the sensor.

Instead of pressing a mechanical button, you hold the magnet close to the housing (correct location is marked by a symbol/sticker).

Through the transparent housing you can see several LEDs. Green LEDs show the current sun intensity, and red LEDs show the current wind speed.



1. Magnet
2. Prog.-button
3. Wind sensor
4. Lux sensor
5. Single red LED (lit during programming mode)
6. Single yellow LED (lit when prog.-button is pressed, etc.)
7. Wind: 8 red LEDs show wind speed, etc.
8. Sun: 8 green LEDs show sun intensity, etc.

LED feedback

The control contains different visible LEDs.

8 green LEDs	show the sun intensity and threshold.
8 red LEDs	show the wind speed and threshold.
1 red LED	shows if programming mode is activated.
1 yellow LED	shows if rain/frost function is activated.

LEDs are automatically turned off after 60 minutes when it's dark (= 0 kLux).

Pressing the progr.-button quickly will turn on the LED feedback for 5 minutes.

If wind/sun/rain function is activated during night, the LEDs are temporary turned on as long as any function is active.

During normal operation, the 8 sun and 8 wind LEDs are turned on from the bottom to the top, to indicate the current sun and wind value.

Red/green LED row:

One LED on each row is flashing. This slow flashing indicates the threshold values. This makes it easy to see if the current wind or sun is close to exceeding the threshold value.

If the current value is above the threshold value, the LED will flash fastly.

If the current value is above the threshold value for a longer time and activates the function, it's indicated with a rapid flashing "threshold LED". The LED will flash rapidly until current value is low, OFF-delay is exceeded and function is inactive again.

If the complete row of **all red LEDs** are flashing quickly, this means that the wind sensor hasn't been working for 48 hours. Wind function is active as long as wind sensor is marked as "broken", the sun protection will be retracted.

Yellow LED:

The single yellow LED is normally turned off.

The single yellow LED will flash slowly when rain function is activated as comfort function.

The single yellow LED will flash fast when rain function is activated as security function and all motors are locked in upper position.

Yellow LED is also light when prog.-button is pressed. This is a visual feedback that magnet is held in correct position.

Single Red LED:

The single red LED is normally turned off.

The single red LED is turned on if you enter the "Programming mode".

Ergonomics to "add/pair" control + motor

With hand-held transmitter:

You need a FB5-transmitter to **add** the control to a system. This transmitter must be known/authorized by the system.

With this transmitter you put the motor into "learn" mode. When motor is in "learn" mode, press prog.-button on the sensor, and it will control your motor.

Please proceed in the following way:

- Press and release prog.-button once on the FB5-transmitter (LED1 blink).
- Press stop-button, and motor will move UP/DOWN and enter "learn" mode.
- Press prog.-button on sensor. Motor will confirm with UP/DOWN.
- Sensor is now paired with the motor and will control the motor.

Without hand-held transmitter:

If a FB5-transmitter is not available, the motor can be turned OFF/ON to enter learn mode for 30 seconds. This will also allow the user to add the sensor to the motor by pressing prog.-button on VRS WISO Crystal Control.

Ergonomics to "remove/unpair" control + motor

You need a FB5-transmitter to **remove** the control from a system. This transmitter must be known/authorized by the system.

With this FB5-transmitter you put the motor into "forget" mode. When motor is in "forget" mode, press prog.-button on the sensor, and it will be removed from your system.

Please proceed in the following way:

– Send “Sensor Remove” with FB5-transmitter
– Press prog.-button until LED 1, 2, 3 is lit on the FB5-transmitter
– Press STOP
– Press prog.-button on sensor. (Within 10 seconds)

Sensor is now unpaired from the motor, and will not control the motor anymore.

Note:
If you switch off the power of the control, motor will be locked by the security time-out after some minutes. Therefore it’s important to unpair the devices if you want to remove the sensor permanently.

Wind sensor (48 hour protection)

If wind sensor doesn’t detect any wind pulses for 48 hours, wind sensor is marked as “broken”, and wind function is activated. This state is saved in flash-memory and remembered after a restart.

All sunshades are retracted and locked to the upper position.

This state is also indicated by 8 flashing all red LEDs as long as sensor is marked as “broken”.

By full turn of the prop, the sensor is marked as fixed again, and motors are **unlocked** again. Other functions, such as sun function or manual UP/DOWN commands, can now be activated again.

Programming mode

The sensor has a magnetic switch instead of a mechanical prog.-button to enter the programming mode. After entering the programming mode, you will be able to change threshold values.

- **Settings sun → Sun threshold (green LEDs)**
- **Settings wind → Wind threshold (red LEDs)**

How to enter programming mode to change sun or wind:

1. Hold magnet close to prog. point for **3 seconds**.
   The green and red LEDs will be lit up.
2. The single red LED will be lit as long as you are in programming mode.
3. Turn wind sensor to change sun threshold. The sun threshold will be indicated by the green LED row.
4. Hold magnet for **3 seconds to “save & apply”** the new sensor mode. If you skip this step, it will revert to the old settings after 5 minutes and exit the programming mode.

IMPORTANT: You can only edit and change one threshold at a time.
If you edit both sun and wind threshold and select “save & apply”, only wind threshold will be saved. Sun threshold will revert to the old value. The main reason is to avoid changing some unwanted threshold.

Note:
Wind function is still detecting the wind speed when you are in programming mode. This means that you might “accidently” activate the wind function if you manually turn the wind sensor too quick.

Programming mode: LED description

When you enter the programming mode, it’s possible to modify sun and wind threshold values. Make sure wind threshold is set to a value suitable to your sun shading installation.

Programming mode: Sun threshold

The sun threshold can be set to a value between 5 kLux and 40 kLux. (Default is 15 kLux). Sun threshold is adjusted with the first programming mode. One whole turn (360°) increase 5 kLux. To change sun threshold from 20 kLux to 30 kLux you should turn wind sensor 2 turns totally.

Note: If no green LEDs are lit, the sun function is disabled.

○	○	○	○	○	○	○	○	●	Top LED
○	○	○	○	○	○	○	●	●	
○	○	○	○	○	○	●	●	●	
○	○	○	○	○	●	●	●	●	
○	○	○	○	●	●	●	●	●	
○	○	○	●	●	●	●	●	●	
○	○	●	●	●	●	●	●	●	
○	●	●	●	●	●	●	●	●	Lowest LED
OFF	5	10	**15**	20	25	30	35	40	kLux

Default **SUN** threshold is 15 kLux is indicated by LED 1, 2, 3 lit.

Programming mode: Wind threshold

The wind threshold can be set to a value between 3 m/s and 17 m/s. (Default is 8 m/s). Wind threshold is adjusted with the second programming mode. One half turn (180°) increase 1 m/s, and one whole turn (360°) increase 2 m/s. To change wind threshold from 5 m/s to 9 m/s you should turn wind sensor 2 turns totally.

Note:
The threshold accuracy is higher than the LEDs can present. The “middle” values are displayed by a flashing LED.

○	○	○	○	○	○	○	○	○	○	○	○	○	○	✳	●	Top LED
○	○	○	○	○	○	○	○	○	○	○	○	✳	●	●	●	
○	○	○	○	○	○	○	○	○	○	✳	●	●	●	●	●	
○	○	○	○	○	○	○	○	○	✳	●	●	●	●	●	●	
○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	
○	○	○	○	✳	●	●	●	●	●	●	●	●	●	●	●	
○	○	✳	●	●	●	●	●	●	●	●	●	●	●	●	●	
○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Lowest LED
0	3	4	5	6	7	**8**	9	10	11	12	13	14	15	16	17	m/s

Default **WIND** threshold is 8 m/s is indicated by LED 1, 2, 3 lit, LED 4 blinking.

Note: ● indicates lit LED, ✳ indicates flashing LED.

Factory reset

If you want to reset all settings into factory default settings, follow this instruction:

1. Power off the wind/lux sensor.
2. Hold prog.-button (magnet close to housing) for 5 seconds when the control is powered on.
3. **Note:** All 8 green and 8 red LEDs will be lit when sensor is powered on.
4. After 2 seconds, all red and green LEDs are alternatively blinking and all settings are reset to factory default settings.

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