# Vesta Building Controller

8-Channel Central Control for Sun Protection and
Roller Shutter Systems in large Buildings

## Installation and Operating Instructions


Vestamatic®

# Contents

# Contents

## Introduction

The Vesta Building Controller is a microprocessor-based 8-channel central control system for all types of sun protection and roller shutter systems. The control is designed for use in large buildings with several facades and/or multiple storeys.

Depending on sun intensity, wind speed, wind direction, precipitation and current time, all connected sun protection and shutter systems can be controlled centrally. External systems such as security window systems, fire alarm or building services control systems can be easily integrated.

The sensor inputs allow simultaneous connection of:

- 2 anemometer
- 1 wind direction meter
- 8 sun sensors
- 2 temperature sensors
- 1 heated rain and frost sensor
- 8 group keys
- 8 maintenance switches
- 1 potential-free alarm input.

The user-friendly interface of the Vesta Building Controller (further mentioned as VBC) gives access to a lot of information like the measured sensor values, state of functions and a logfile. It also gives access to a lot of control possibilities like manual operation, automatic operation and control by the sun function. The display is divided in different area's containing plain text sometimes in combination with graphics. The function keys at the right side of the display give direct access to special functionality. The function keys are menu specific, which means that each menu can have its own set of function keys.

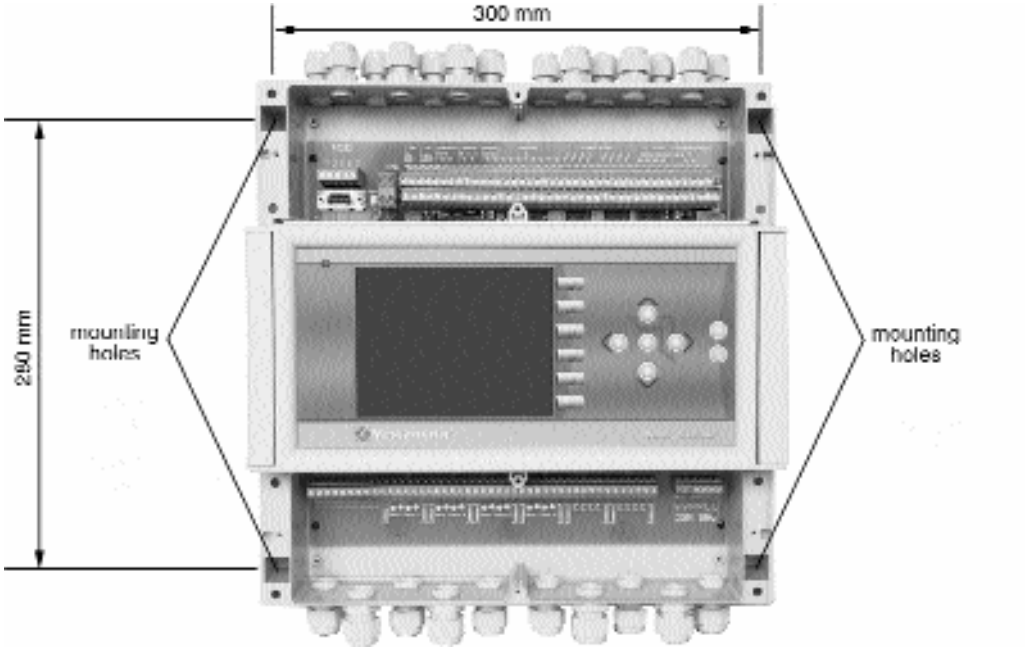
The VBC is prepared for the future, it has the possibility to connect to a LON-bus, it is prepared to connect to the CAN-bus, and it is also prepared to communicate with other VBC's. Connecting the VBC to a PC gives you the ability to control the VBC from your own workspace. Visualisation software gives you a direct overview and the possibility to control your complete building.

The next chapters will explain how to control the VBC, the different menus and how to configure the different functionality's.

## 1 Installation instructions

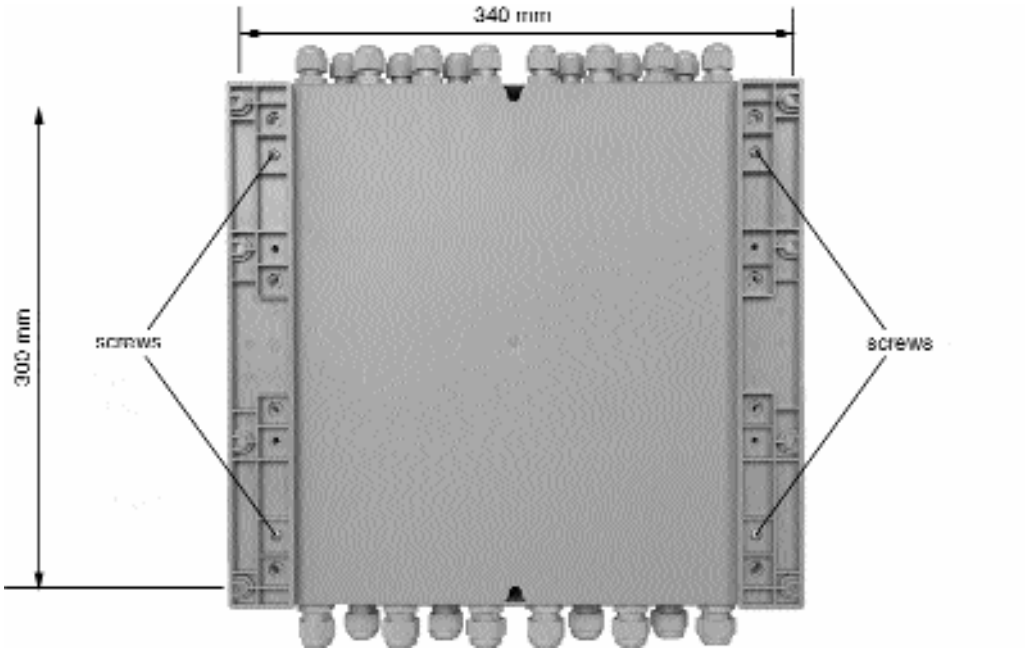
### 1.1 Mounting the Vesta Building Controller

There are two ways to fix the Vesta Building Controller to the wall. The first is fixing it directly to the wall using the 4 mounting holes on the inside of the box (see picture 1). Remove the 2 covers on the top and bottom and fix the device to the wall with 4 screws. The drill distances are shown below.




The second option is to use the 2 spacers. These can be used to create a distance of 11 mm between the wall and the Vesta Building Controller. This allows cables to be guided behind the device, or fixing it on an uneven wall.

Attach the spacers on the back of the device as shown in picture 2 with the 4 screws which are included. Then fix the device to the wall using the holes on the corners. The drill distances are shown below.

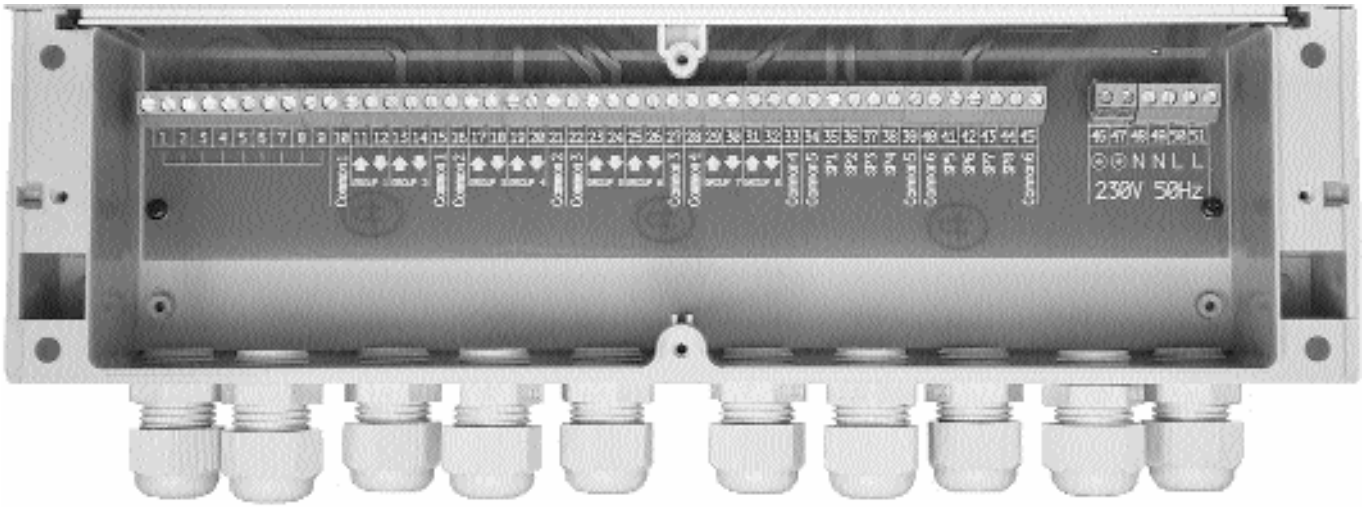


### 1.2 Connecting the Vesta Building Controller

The inputs and outputs of the Vesta Building Controller are under the two covers and are split up in two parts. On the upper part all the sensors are connected. The lower part is for the relay outputs.

#### 1.2.1 Mains power supply and relay outputs

The picture below shows the output part.

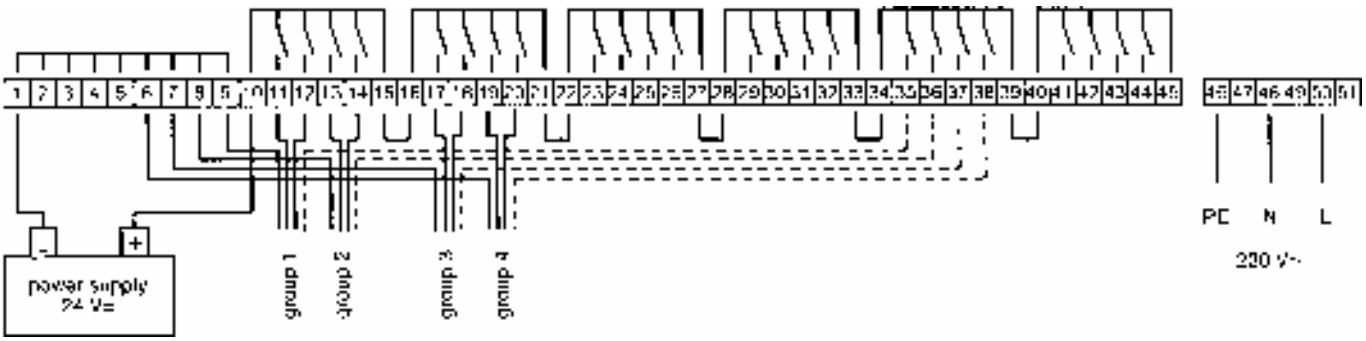



The mains power supply (230 V~, 50 Hz) for the device must be made on the connections 46 to 51. The connections 1 to 9 are internally connected and can be used for example to connect the minus of the 24 Volt.

The outputs are potential-free and can therefore be used for 230 V~ control voltage or 24 V~/=. For safety reasons it is not allowed to combine both 230 V and 24 V on the outputs. In that case use external relayboxes.

The group outputs (10–33) are split up in blocks of 4 relays or 2 groups. Each block has its own common. The commons are used to put a voltage on the relays. This voltage is switched on the up/down outputs. Because the commons of the different blocks are next to each other it is very easy to connect them together. Optional the blocking outputs (SP1–SP8) can be used to disable the individual control on relay-PCB's.

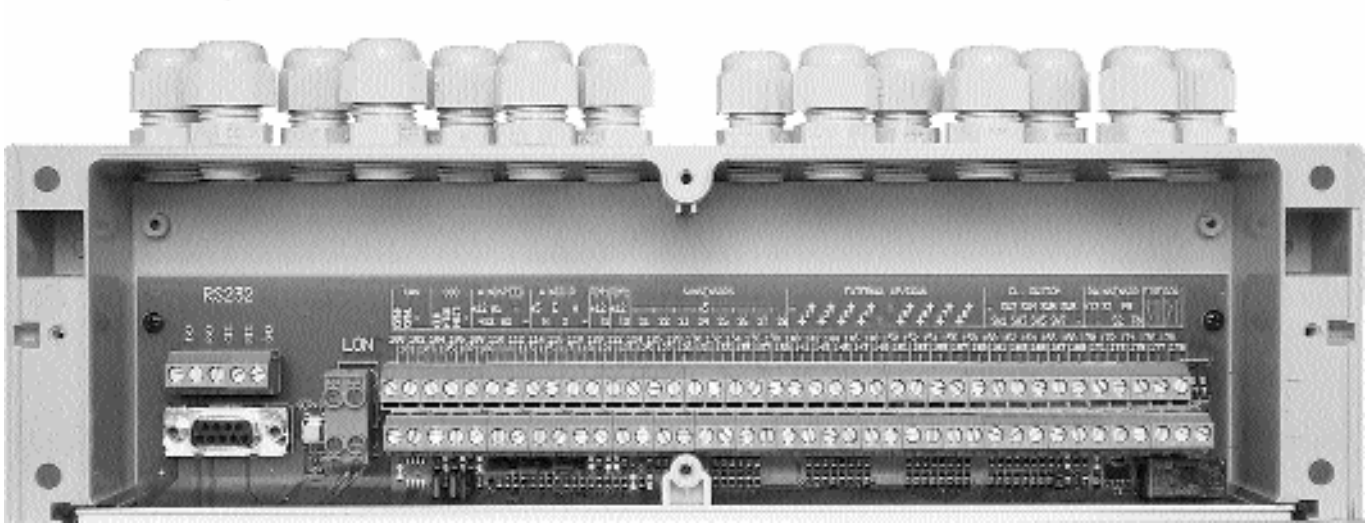
The next diagram shows the internal structure of the Vesta Building Controller's outputs, and a typical installation for 4 groups with 24 V control voltage and optional blocking (dotted line). Everything above the numbers is internal, and below is external.




**Note: Do not forget to bridge the commons if necessary. In the above situation for example terminals 15 and 16 must be bridged.**

### 1.2.2 Sensor connections and digital inputs

All sensors are connected in the upper connection part as shown below. The next chapters will describe the connection for each sensor.




### 1.2.3 Wind speed sensors

There can be 2 wind speed sensors connected. These can be the current type or the frequency type sensor. If the heated sensors maximum current consumption is 100 mA, the sensor can be connected directly. An external power supply must be used, if the heated sensors current consumption is higher than 100 mA.

Current sensor with heating less than 100 mA:

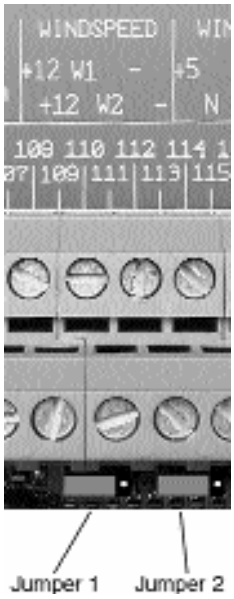
The sensor can be directly connected to the VBC. Use terminals 108, 110 and 112 for sensor 1 and 109, 111 and 113 for sensor 2.
For sensor 1 jumper 1 (see picture) must be placed to the left.
For sensor 2 jumper 2 (see picture) must be placed to the left.

Current sensor with heating more than 100 mA:

The sensor cannot be directly powered by the VBC. Therefore an external power supply unit must be placed. Only the signal and ground must be connected to the VBC (110 and 112 for sensor 1 and 111 and 113 for sensor 2).
For sensor 1 jumper 1 (see picture) must be placed to the left.
For sensor 2 jumper 2 (see picture) must be placed to the left.

Frequency type sensor with our without heating:

Both with and without heating can be directly connected (provided that the heating consumes no more then 100 mA). Use terminals 108, 110 and 112 for sensor 1 and 109, 111 and 113 for sensor 2. If an external power supply must be used, do not connect terminal 108 and/or 109.
For sensor 1 jumper 1 (see picture) must be placed to the right.
For sensor 2 jumper 2 (see picture) must be placed to the right.



### 1.2.4 Wind direction sensor

There can be 1 wind direction sensor connected to the VBC. This one can be a current type or a digital sensor. If the heated sensors maximum current consumption is 100 mA, the sensor can be connected directly. An external power supply must be used, if the heated sensors current consumption is higher than 100 mA.

Current sensor with heating less than 100 mA:

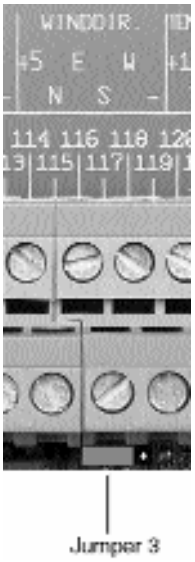
The sensor can be directly connected to the VBC. Use the 12 V (108 or 109) from the wind speed connection and connect the output of the sensor to North (115). Also connect the ground (119).
Jumper 3 must be placed to the left side.

Current sensor with heating more than 100 mA:

The sensor cannot be directly powered by the VBC. Therefore an external power supply unit must be placed. Only the signal (North = 115) and the ground (119) must be connected.
Jumper 3 must be placed to the left side.

Digital sensor with our without heating:

Both with and without heating can be directly connected to the VBC (provided that the heating consumes no more then 100 mA). Connect the wind direction sensor to terminals 114 to 119. For the heater power supply (max. 100 mA) terminals 108 or 109 from the wind speed can be used. Jumper 3 must be placed to the right side.

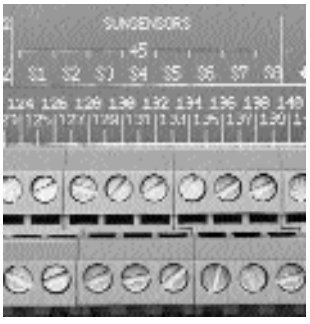



### 1.2.5 Temperature sensors

There can be 2 temperature sensors TS-01 connected to the VBC. The temperature sensor is connected between terminal 120 and 121 for sensor 1 or between terminal 122 and 123 for sensor 2. The sensors do not have a polarity and can therefore connected in both ways.


### 1.2.6 Sun sensors

There can be 8 sun sensors SS30 connected to the VBC. The terminals are 124 to 139. 124 and 125 are for sensor 1, 126 and 127 are for sensor 2 etc. It is possible to use 1 wire for the 5 V (for 8 sensors 9 wires can be used instead of 16). The sensors do not have a polarity and can therefore connected in both ways. Each sensor can be assigned to 1 or more groups.



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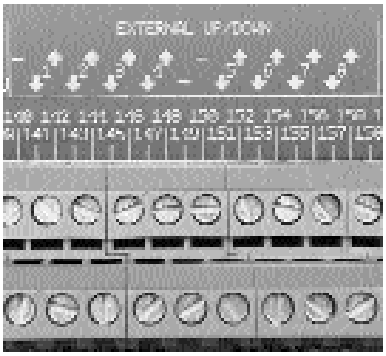
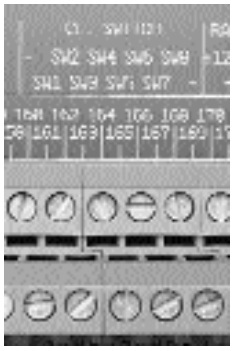
### 1.2.7 External up/down inputs




Each group has its own external up/down input. This inputs require a potential-free switch. It is possible to switch more inputs with the same switch at the same time.

Connect the switch to the desired input and the common terminals (140, 149, 150 or 159).

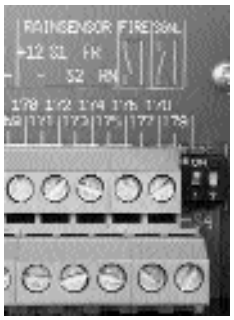
### 1.2.8 Window cleaning and maintenance inputs



The window cleaning/maintenance inputs can be used to block the sunshade in a specific position. This is very important when the windows are cleaned or maintenance is carried out. Each group has its own input.

Connect a keyswitch to the input and the common terminals 160 and 169. It is possible to connect more inputs to one keyswitch.

### 1.2.9 Rain sensor




The rain sensor is connected with 6 wires. The connections on the rain sensor 1–6 correspond with connections 170–175 on the VBC. With the 2 DIP-switches on the right of the terminal block the sensitivity of the rain sensor can be set.


### 1.2.10 Fire input

The fire input can be used to connect the VBC to a fire alarm system. Connect a normally open potential-free contact from the fire alarm system to terminals 176 and 177 of the VBC (see picture chapter 1.2.9). Note that if the input is not used, the terminals 176 and 177 must be bridged by a wire.

### 1.2.11 Signaling relay output

The signaling relay (terminals 178 and 179) can be used to signal errors or status to other systems. It is an potential-free relay output. This relay contact can only be used for low voltages, up to 40 Volt and maximum 1 A.

### 1.3 Communication ports

The VBC has several communication ports, however not all of them are used at this moment. The next chapters will describe the functions.

#### 1.3.1 CAN

This option is not used at this moment and cannot be used.

#### 1.3.2 SSC

With the Master-Slave option this connection will be used. Connect the Master VBC with the Slave VBC parallel to the terminals 104 to 107. The maximum length is 3 meter.

#### 1.3.3 RS232


The RS232 interface can be used for maintenance and visualization. There are two options to connect the cable, use a male 9-pin SUB-D connector or directly connect the cable to the 5 terminals. **Never use both at the same time!**
If a standard RS232 cable is used it must be a 1 to 1 cable. The maximun length is 5 meter.

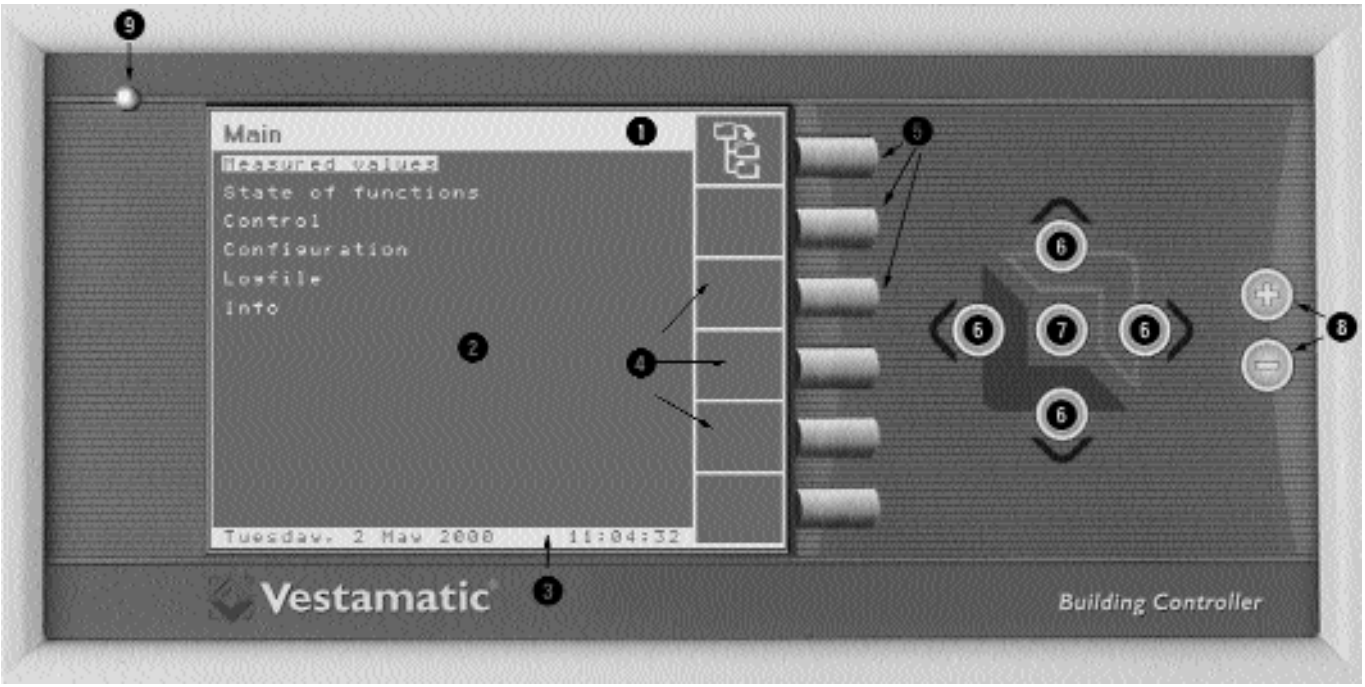
#### 1.3.4 LON


The connector is used to connect the VBC to the Vestalon-system. The option is only available if the VBC is equiped with the Vestalon-module. The service pin and the red LED are only for configuring the network. For a more detailed description of the network we refer to the Vestalon operating instructions.

## 2 General

This chapter describes how to control the Vesta Building Controller in general. The different function keys will be explained, the layout of the display and the buzzer functionality will be described.

The picture below shows the user control of the Vesta Building Controller.




*Picture 1: The user control*

❶ Display title area
❷ Display main area
❸ Display date/time area
❹ Display function keys area
❺ Function keys
❻ Cursor movement keys
❼ Home key
❽ Edit keys
❾ Power LED

### 2.1 Keys

#### 2.1.1 Function keys ❺

The function keys are special keys. The functionality of the function key will be described by the area left to the function key. This could be plain text or a pictogram. When the area left to the function key is blank that means there is no functionality assigned to this function key. When the text or graphic left to the function key is grayed out a functionality is assigned to this function key but it is disabled.

The two most upper function keys have always the same functionality:


Enter sub-menu. The current selected item is a sub-menu. By pressing this function key, the sub-menu will be entered.


Leave sub-menu. By pressing this function key, the sub-menu will be left.

#### 2.1.2 Cursor movement keys ❻

With the cursor movement keys the cursor of the current selection can be moved.

### 2.1.3 Home key ❼

By pressing the home key, the program will return to the main menu. There is one exception, when the string edit is activated, the home key will leave the string edit mode.

### 2.1.4 Edit keys ❽

With the edit keys, the value of the current selected variable can be changed. When the current selection is not a variable, nothing will happen.

## 2.2 Display

The display area is divided in a number of areas which have always the same functionality, the following sections:

| | |
|---|---|
| Title area ❶ | Shows the current menu title. |
| Main area ❷ | Shows the current menu. When a scrollbar is visible to the right of the main area means that the current menu has some items which are not visible. The size of the shutter represents the visible area, the position of the shutter indicates the current position. The current selection can be changed by pressing the cursor movement keys. |
| Date/time area ❸ | Shows the current day of week, date and time. |
| Function key area ❹ | Shows the functionality of the function key to the right side. The functionality can be shown by a icon or by plain text. |

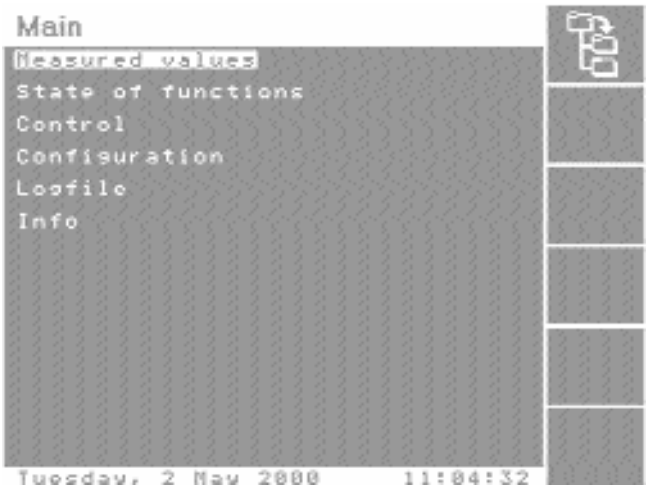
## 2.3 Buzzer

The buzzer will beep shortly to confirm that a key is pressed by the user. The volume of the buzzer can be changed in the configuration menu section user control.

# 3 Operation

This chapter will explain how to use the different menus.

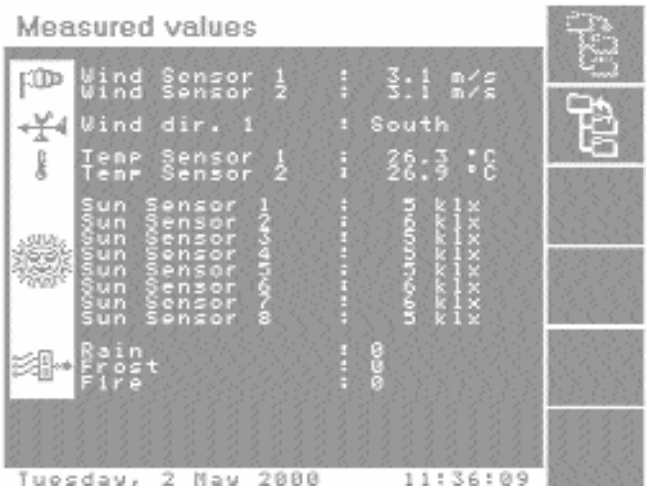
## 3.1 Main menu




*Picture 2: Menu main*

The main menu is the most upper menu. From this main menu, the user can select a number of sub-menus. To select another sub-menu, use the cursor control keys UP and DOWN. When the desired sub-menu is selected, press the “enter sub-menu” function key. This is the function key with the icon left to it.

## 3.2 Measured values




*Picture 3: Menu measured values*

The measured values menu displays the current measured values. The main area can be divided into three columns. The menu can be left by pressing the “leave and sub-menu” function key.

Column 1: A graphical representation of the measured value. Below a list of the possible graphical representation with their description.

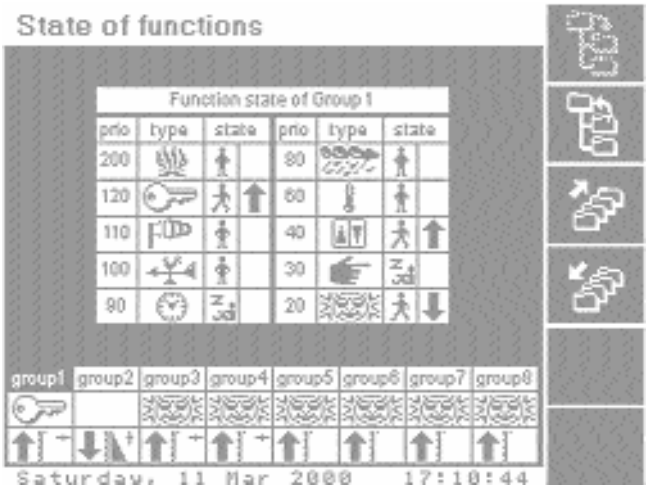
| | | | |
|---|---|---|---|
| | Wind | | Sun intensity |
| | Wind direction | | Digital inputs |
| | Temperature | | |

The unit were in the value of a particular sensor is measured, can be changed in the configuration menu section sensors.

Column 2: The alias of the sensor. The alias (description) of a sensor can be changed in the configuration menu section sensors.

Column 3: The actual measured values which will be updated every second. When a sensor is temporary disabled, the text “off” will be shown. When a sensor is defect, the text “defect” will be shown.

### 3.3 State of functions




*Picture 4: Menu state of functions*

The state of functions menu gives an overview of the function state. The main area can be divided into two sections: a detailed function description of current group and an active function overview.

#### 3.3.1 Detailed functional description of current group

In this description the state of all functions of the current group will be shown. The header of this description shows the group alias. The different functions are ordered by priority in two columns. The function with the highest priority number, has the highest priority. The priority can be any number between 0 (lowest) and 255 (highest). Next to the priority, an icon is shown which represents the function. Below a description of all functions with their associated icon:

| | | | |
|---|---|---|---|
| | Fire function | | Rain function |
| | Window cleaning function | | Temperature function |
| | Wind function | | External inputs function |
| | Wind direction function | | Hand function |
| | Clock function | | Sun function |

Next to the function type, the state of the function will be shown. Below a description of all possible function states:

| | |
|---|---|
| | Function is active. A function will be active when during a predefined time the active conditions stay “true”. |
| | Function is inactive. A function will be deactivated when during a predefined time the active conditions stay “false”. |
| | Function is asleep. The function is enabled but will not perform any action. The time function will go to the sleep state when no timer program is stored. The sun function will go to the sleep state when the manual operation is activated. |

⚠ Function is in safety mode. The safety mode will be entered if one of the assigned sensors to this functions is defect or disabled.

⊗ Function is disabled.

Next to the function state the motor action will be shown. Below a description of all possible motor actions:

⬆ The motor action is up.

■ The motor action is stop.

⬇ The motor action is down.

### 3.3.2 Changing current group

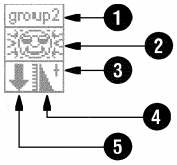
With the function keys or with the cursor movement keys the current group of the detailed functional description can be changed.

Next group. Show detailed description of next group.

Previous group. Show detailed description of previous group.

### 3.3.3 Active function overview

This function shows an overview of the active functions for all groups. It also shows the current motor action, the position of the roller shutters and – when using venetian blinds – the angle of the blinds.




❶
Group of active functions.

❷
Active function, see detailed functional description for list of functions with their associated icons. When no function is active, this area is blank..

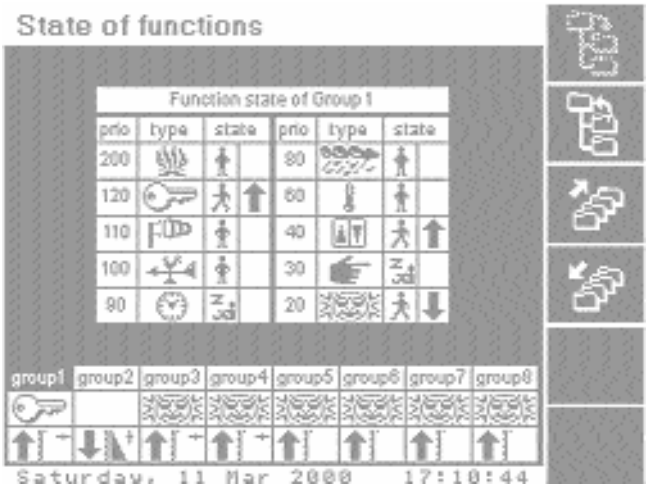
❸
Angle of venetian blinds. When no venetian blinds are used, the symbol doesn't appear.

❹
Position of the sunshade.

❺
Motor action.

This description will be shown for each group.

### 3.3.4 Example

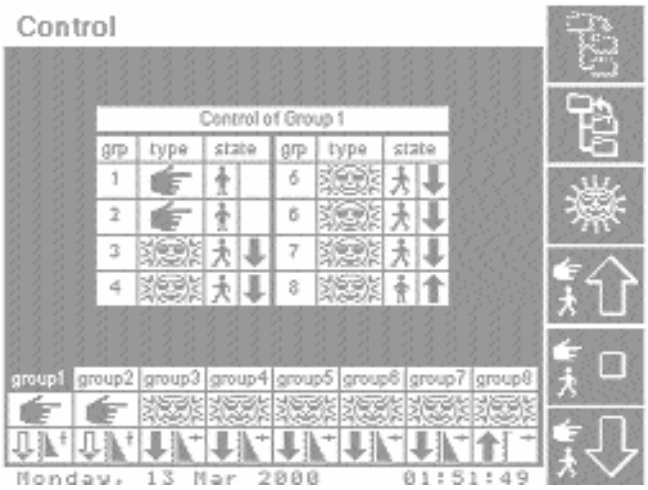



*Picture 5: Menu state of functions – example*

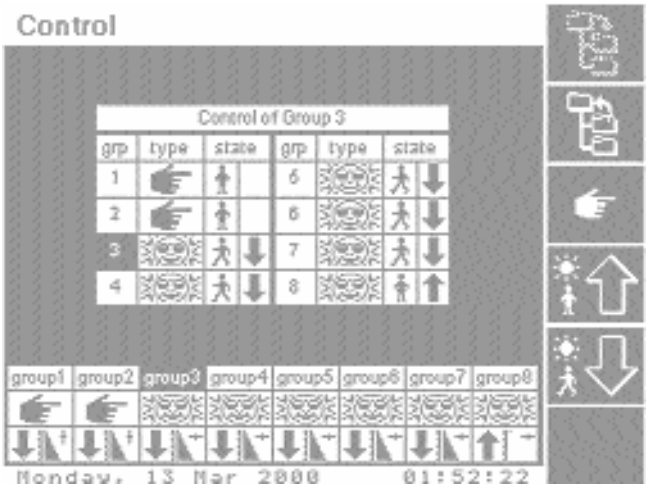
| Priority | Function | Motor action |
|---|---|---|
| 120 | Window cleaning | UP |
| 40 | External inputs | UP |
| 20 | Sun | DOWN |

Only the function with the highest priority will get the actual control. In the example for group 1 this will be the window cleaning function. When looking at the active function overview, this will be confirmed.

### 3.4 Control




*Picture 6: Menu control – by hand function*




*Picture 7: Menu control – by sun function*

The control menu gives the user the possibility to:

- Manual controlling (picture 6: Control menu – by hand function)
- Controlling the sun function (picture 7: Control menu – by sun function).

### 3.4.1 Control menu – by hand function

When controlling by hand function, the sun function is temporary disabled. The sunshade position can be controlled by hand using the following function keys:

Steer the sunshade up.

Stop the current motor action.
When no motor action is active, nothing will happen.

Steer the sunshade down.

### 3.4.2 Control menu – by sun function

When controlling by sun function, the sun function can be “forced” in a certain state using the following function keys.

Force the sun function in the inactive state
and the sunshade will be retracted.

Force the sun function in the active state
and the sunshade will be extended.

### 3.4.3 Type of control

The type of control can be changed by the following function keys.

Switch to control by sun function. This function key is only available when control by hand function is selected.

Switch to control by hand function. This function key is only available when control by sun function is selected.

### 3.4.4 Screen layout

The main area is divided into two sections. The layout has much similarities with the state of functions menu. The active function overview is the same as in the state of functions menu. In the active function overview can be seen which function is currently active. When a function with a higher priority than the hand or sun function is active, control by hand function or control by sun function has no use.

The description in the middle of the main area, shows for each group the type of control:

Control by sun function.

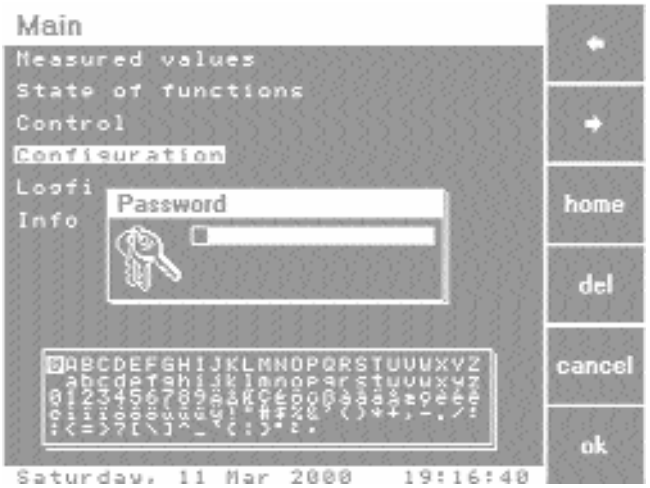
Control by hand function.

Next to the control type, the function state and the motor action is shown, same as in the state of functions menu detailed description.

### 3.4.5 Changing current group

To select another group to control, use the cursor movement keys. When group 1 is the current group, pressing DOWN will select group 2. When group 2 is the current group, pressing UP will select group 1.

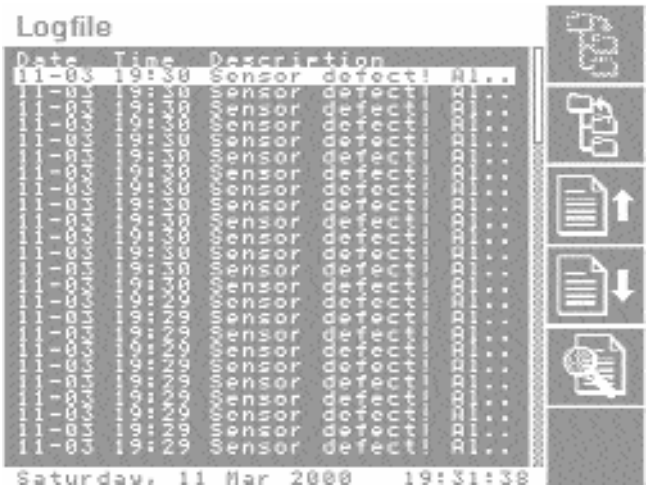
## 3.5 Configuration




*Picture 8: Menu configuration – enter*

Within the configuration menu, a lot of settings can be made. For this reason the menu is password protected. For a detailed description of the configuration menu, see chapter 4, Configuration.

## 3.6 Logfile




*Picture 9: Menu logfile*

The logfile menu shows a list of all occurred errors. The last occurred error appears at the top of the list, the first occurred error at the bottom of the list. The logfile description consists out of three columns:

| | |
|---|---|
| Date | Date when error occurred. |
| Time | Time when error occurred. |
| Description | Description of the error occurred. When the description does not fit in the logfile overview, the description will be truncated. This will be indicated with ".." at the end of the description. |

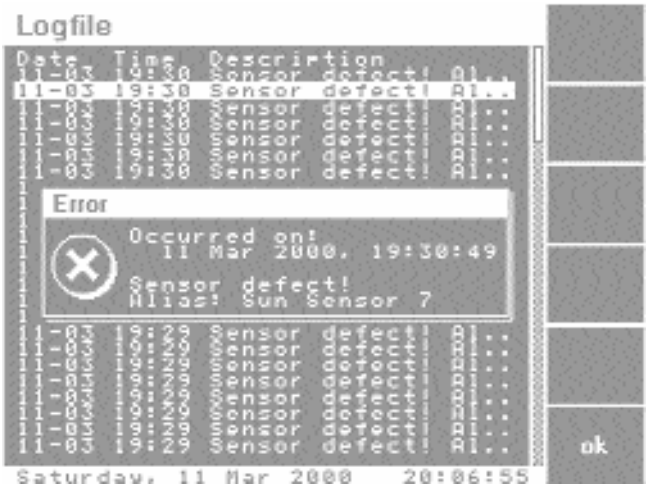
### 3.6.1 Browsing the logfile

With the cursor movement keys UP and DOWN the current selection can be moved one up or one down. With the function keys it is possible to move the current selection one page up or down or show detailed information about the error.


Scroll one page up. When the first error in the logfile is selected, nothing will happen.


Scroll one page down. When the last error in the logfile is selected, nothing will happen.

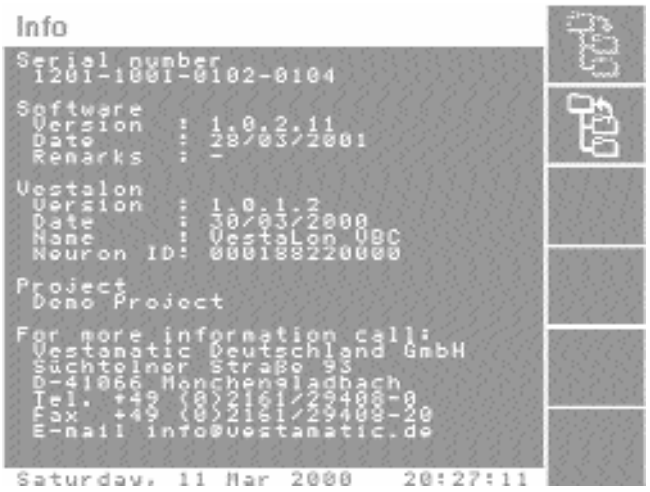

Show detailed description about the select error.




*Picture 10:*
*Menu logfile – detailed description*

When the function key detailed information is pressed, a dialog window will be shown with detailed information about the error (see picture 10: Logfile menu – detailed description). The dialog window can be hide by pressing the function key next to the OK text.

### 3.7 Info

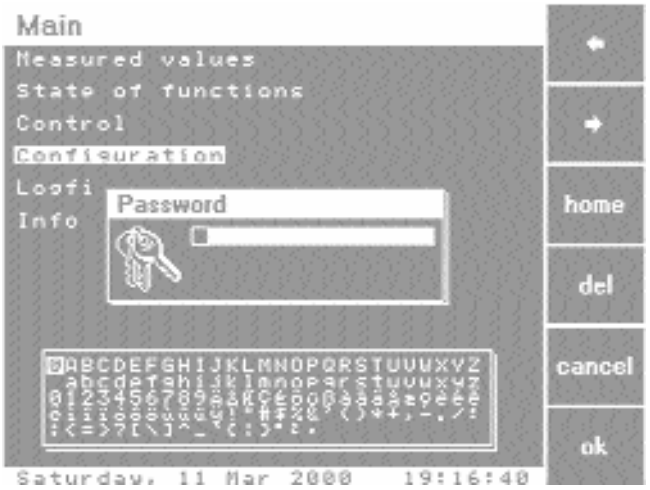



*Picture 11: Menu info*

The info menu shows the following information:

| | |
|---|---|
| Serial number | The serial number of the Vesta Building Controller. |
| Software | Detailed information about the software version. |
| Version | Software version |
| Date | Software release date |
| Remarks | Software remarks (in case of special software). |
| Vestalon | When the Vesta Building Controller is equipped with a Vestalon-module, detailed information about the Vestalon-module will be shown. |
| Version | Software version |
| Date | Software release date |
| Name | Vestalon id name |
| Neuron ID | Vestalon neuron id |
| Project | Project name description. |
| Contact info | Contact information who you can call for more information about the Vesta Building Controller. |

# 4 Configuration




*Picture 12: Menu configuration – enter*

Within the configuration menu, a lot of settings can be made. For this reason the menu is protected by a password.

## 4.1 Password

To enter the configuration menu, a correct password must be entered. The default password is “usr” (without the quotes and in lower case). The password can be changed in the configuration menu section change password.

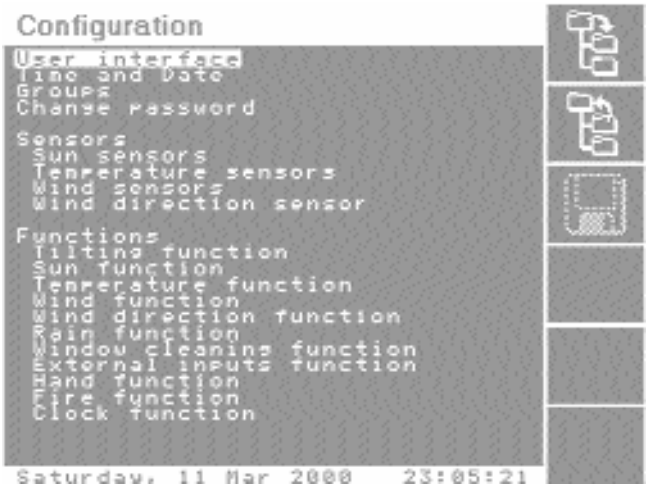
### 4.1.1 How to enter the password

As shown in picture 12, two dialog windows appear on the screen. The upper is the password input dialog window and the lower is the character select dialog window. With the cursor movement keys the character to insert can be selected in the character select dialog window. With the edit keys (plus or minus key) the selected character will be inserted. When entering a password, characters entered will be showed as “*” . The function keys have the following functionality:

| | |
|---|---|
| ⬅ | Move the cursor within the edited text to the left. |
| ➡ | Move the cursor within the edited text to the right. |
| **home** | Move the cursor within the edited text to the left position (the home position). |
| **del** | Delete the character behind the cursor. If the cursor is at the end of the edited text, delete the character left to the cursor. |
| **Cancel** | Cancel the text edit. Modifications to the text will be ignored. |
| **ok** | Accept the edited text. Modification to the text will be taken over. |

When the password is entered correctly and accepted, the configuration menu will appear.

# Configuration

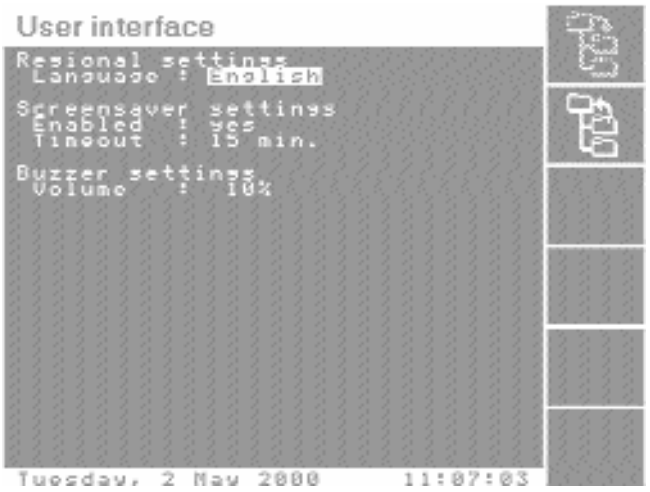



*Picture 13: Menu configuration*

When changes are made in the configuration, the function key “save settings” will be enabled.

Save changes made in the configuration. This function key is only activated when changes are made. Before leaving the configuration menu, changes must be saved, otherwise changes will be lost.

### 4.2 User interface




*Picture 14: Menu user interface*

Within the user interface menu, the following settings can be made.

Regional settings

| | |
|---|---|
| Language | Select language.<br>The following languages are implemented: english, german, dutch, french. |

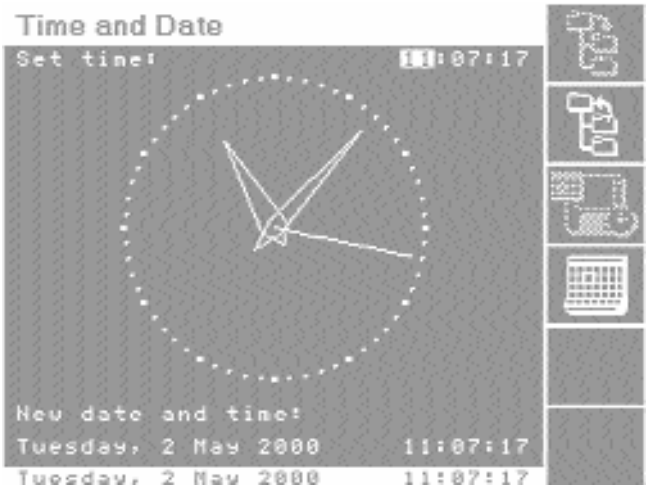
Screensaver

| | |
|---|---|
| Enabled | Enable or disable the screensaver functionality.<br>When the screensaver is disabled, the backlight of the display will always be on. It is not recommend to disable the screensaver. The lifetime of the backlight is limited. |
| Timeout | When the screensaver is enabled, the timeout can be set from 1 to 60 minutes. When for the timeout time no key is pressed, the backlight will go off. When pressing a key again, the backlight will go on (the key pressed will be ignored). |

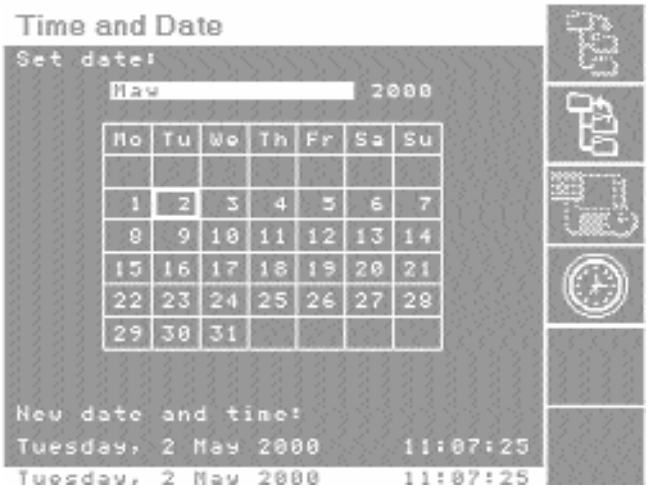
Buzzer settings

| | |
|---|---|
| Volume | Set the volume of the buzzer.<br>The volume can be set from 0% to 100% with a resolution of 5%. |

## 4.3 Time and Date




*Picture 15:*
*Time and Date – set time*




*Picture 16:*
*Time and Date – set date*

In the time and date menu, time and date can be set. The following paragraphs describes how.

### 4.3.1 Set time

The menu “set time” shows the default current time (see picture 15: Time and Date – set time). The clock will be updated every second. With the cursor movement keys, the following settings can be selected: hours, minutes and seconds. When changing the time with the edit keys, the clock stops ticking till the new time and date will be saved. At the bottom of the main area the new time and date will be show.

### 4.3.2 Set date

The menu “set date” shows the default current date (see picture 16: Time and Date – set date). With the cursor movement keys you can select between: month, year or day.

### 4.3.3 Function keys

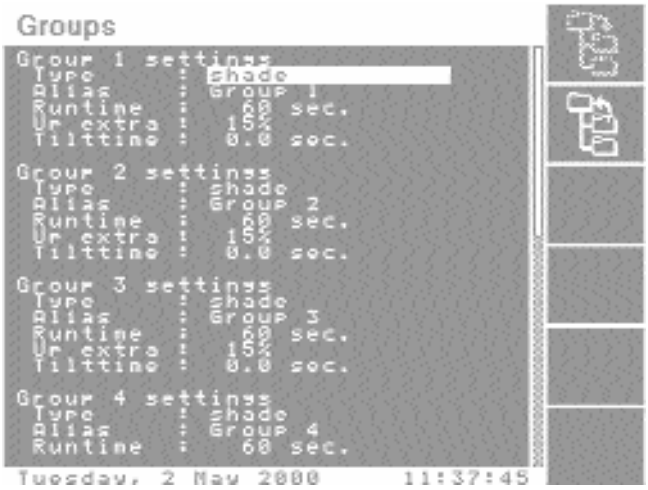
The function keys within the menu “time and date” have the following functionality:

Switch to menu “set date”. This function key is only available in the menu “set time”.

Switch to menu “set time”. This function key is only available in the menu “set date”.

Save the changed time and date. This function key is only enabled when changes are made to time and/or date.

### 4.4 Groups




*Picture 17: Menu groups*

The groups menu let you set the following:

Type — Setting the type of the sunshade. You could select the typs shade, shutter, venetian blind or screen.

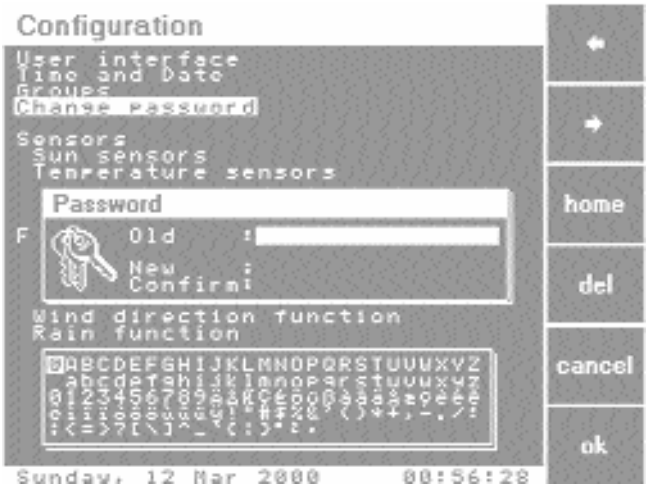
Alias — A description for the current group. Default the alias will be set to “Group n” where “n” is current group index (1...8). The alias can be changed by pressing the edit keys. The character dialog will appear (see paragraph 4.1.1, How to enter the password).

Runtime — The runtime of a group. This is the time that it takes to steer the sunshade from the retracted position to the extended position. The runtime can be set from 1 to 3600 seconds.

Up extra — With the up extra setting, the runtime for steering up can be extended. Normally, steering the sunshade down goes faster than steering the same sunshade up. This will be caused by the earth gravity. When setting up extra to 15% means that the runtime up will extended with 15% of the total runtime.

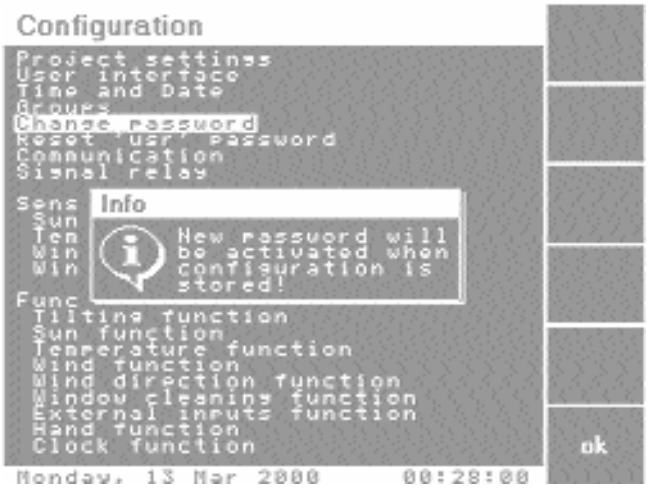
Tilting time — The maximum tilting time, when using venetian blinds. The time that must be entered is the time that is needed to steer the venetian blind from the closed position to the completely open position. The tilting time can be set from 0.0 to 9.9 seconds with a resolution of 100 milliseconds.

### 4.6 Change password




*Picture 18: Change password*

In the menu change password, the password which gives access to the configuration menu, can be changed. First enter the old password, then enter and confirm the new password. When the new password is accepted, the following dialog will appear.




*Picture 19: Change password – info*

Saving the configuration (press save function key) you will also save the new password. When the configuration will not be saved, the old password will be retained.

### 4.6 Sensors

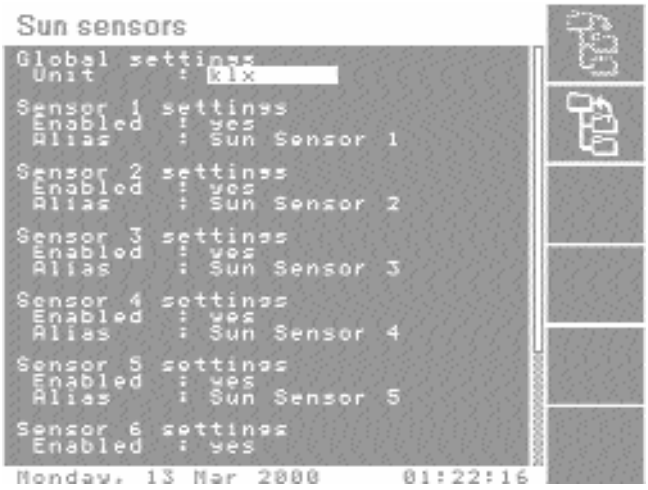
In the sensors section of the configuration menu the following settings can be made for each sensor:

Unit The unit of the measured sensor value.

Enabled If the current sensor is enabled or disabled.

Alias A description for the current sensor.

#### 4.6.1 Sonnensensoren




*Picture 20: Menu sun sensors*

Global settings

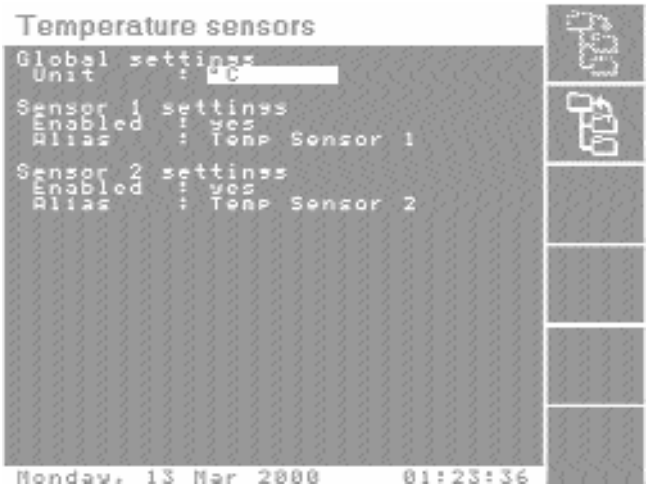
Unit — The unit of the sun sensor can only be set to *"klx"*. Maybe that in the future the unit type for the sun sensor will be extended.

Sensor *"n"* settings

Enabled — Enable or disable sensor *"n"*.

Alias — A description for sensor *"n"*.

### 4.6.2 Temperature sensors




*Picture 21: Menu temperature sensors*

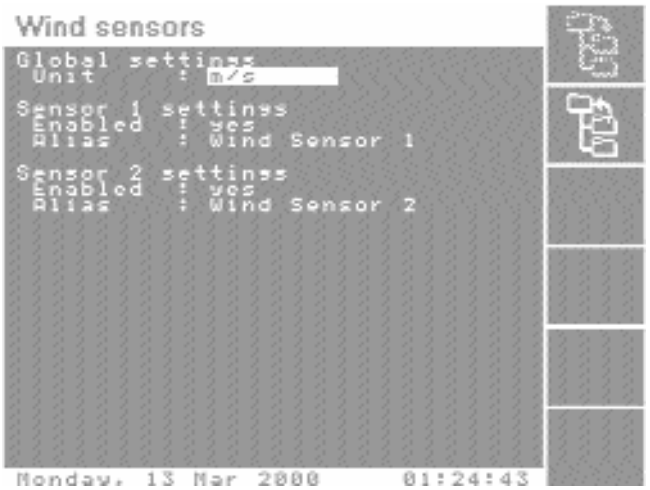
Global settings

| | |
|---|---|
| Unit | The unit of the temperature sensors can be set to °C (degrees Celsius), °F (degrees Fahrenheit) and K (Kelvin). |

Sensor *"n"* settings

| | |
|---|---|
| Enabled | Enable or disable sensor *"n".* |
| Alias | A description for sensor *"n".* |

### 4.6.3 Wind sensors




*Picture 22: Menu wind sensors*

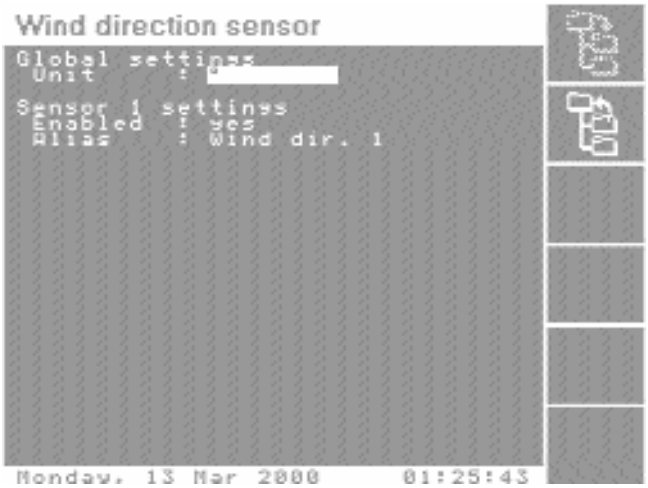
Global settings

| | |
|---|---|
| Unit | The unit of the wind sensors can be set to m/s (metres per second), km/h (kilometres per hour), knots and bft (Beaufort). |

Sensor *"n"* settings

| | |
|---|---|
| Enabled | Enable or disable sensor *"n".* |
| Alias | A description for sensor *"n".* |

### 4.6.4 Wind direction sensor




*Picture 23: Menu wind direction sensor*

Global settings

| | |
|---|---|
| Unit | The unit of the wind direction sensor can be set to °(degrees) and N-E-S-W (North-East-South-West). |

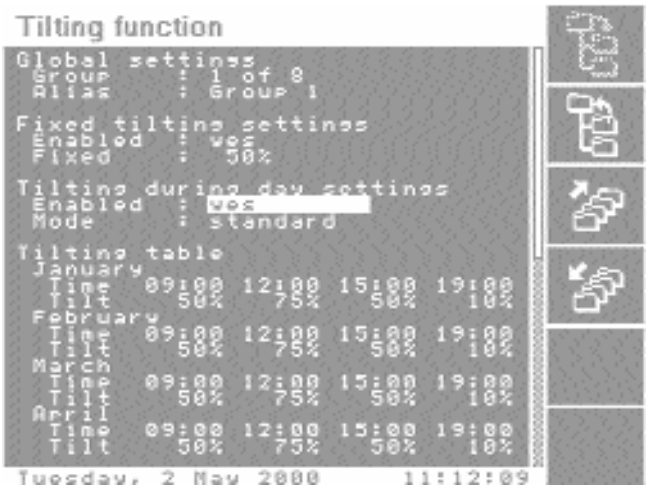
Sensor *"n"* settings

| | |
|---|---|
| Enabled | Enable or disable sensor *"n".* |
| Alias | A description for sensor *"n".* |

## 4.7 Functions

In the next paragraphs the configuration of the different functions will be explained.

### 4.7.1 Tilting function




*Picture 24: Menu tilting function*

The tilting functionality is normally wanted when using venetian blinds. The Vesta Building Controller supports two tilting types: fixed tilting and tilting during day. In this menu both kinds of tilting can be configured for each group.

# Configuration

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |

Fixed tilting settings

| | |
|---|---|
| Enabled | Enable or disable fixed tilting functionality. When fixed tilting is disabled, no fixed tilting command will be executed. |
| Fixed | The fixed tilting position. This position can be set from 0% to 100%. 0% means venetian blinds fully closed, 100% means venetican blinds fully opened. |

Tilting during day settings

| | |
|---|---|
| Enabled | Enable or disable the tilting during day functionality. When tilting during day is disabled, no tilting during day commands will be executed. |
| Mode | Select the way of regulating the venetian blinds. The possible options are:<br><br>Secure<br>Before regulating the tilting, a down command with a duration of the runtime will be executed.<br><br>Standard<br>Before regulating the tilting, a down command with a duration of the maximum tilting time will be executed.<br><br>Fast<br>Only adjust the tilting by steering up or down (depence of last tilting position and new tilting position). |

Tilting table

| | |
|---|---|
| Time | For each month four tilting zones can be defined. Within this time-period for that specific month, the tilting will be set as programmed by the tilting parameter. For example figure 24 menu tilting function month january:<br>The first period of time of the daily tilting function starts at 9:00 o'clock with a tilting position of 50%. This position will be hold until the next period starts. The second period of time starts at 12:00 o'clock. At this time the tilting position changes to 75%. At 15:00 o'clock the third period of time get active and the tilting position will be set to 50%. The fourth period starts at 19:00 o'clock with a tilting position of 10%. This position will be hold until the first period of time at the next day starts. In this example the period starts at 9:00 o'clock with a tilting position of 50%.<br>Note that the period 1–4 of the programmable times must increase. That means period 2 must be later than period 1 and period 3 must be later than period 2. |
| Tilting | Set the tilting position for the particular time zone. The tilting position can be set from 0% to 100%. |

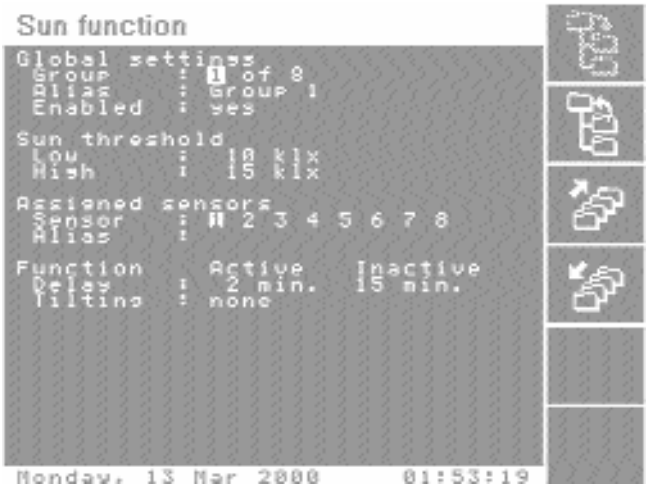
Please remark that you only could configure the tilting function in this menu. The tilting function can be activated by the following 5 functions:

- Sun function
- External inputs function
- Clock function
- Temperature function
- Hand function

Assigning tilting to a function is only possible when that function satisfies the following conditions:

- Function action must be down.
- Function type must be running.

### 4.7.2 Sun function




*Picture 25: Menu sun function*

The sun function will steer the sunshade as function of the measured sun intensity.

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the sun function. |

Sun threshold

| | |
|---|---|
| Low | Sun threshold low value. When the sun intensity is below this threshold for the programmed inactive time, the sun function will become inactive. In that case the sunshade will be retracted (when no other function with a higher priority is active). The sun low threshold must always be below the high threshold. |
| High | Sun threshold high value. When the sun intensity is equal or higher than the programmed high threshold for the programmed active time, the sun function will become active. In that case the sunshade will be extended (when no other function with a higher priority is active). The sun high threshold must always be above the low threshold. |

Assigned sensors

Sensor — Gives a list of all possible sensors which can be assigned to this function. When moving the cursor over the different sensor indexes, the alias will show the corresponding name of that sensor. The sensor index can have the following states:

- 1 Sensor is not assigned to function, cursor is not on this sensor index.
- 1 Sensor is assigned to function, cursor is not on this sensor index.
- 1 Sensor is not assigned to function, cursor is on this sensor index.
- 1 Sensor is assigned to function, cursor is on this sensor index.

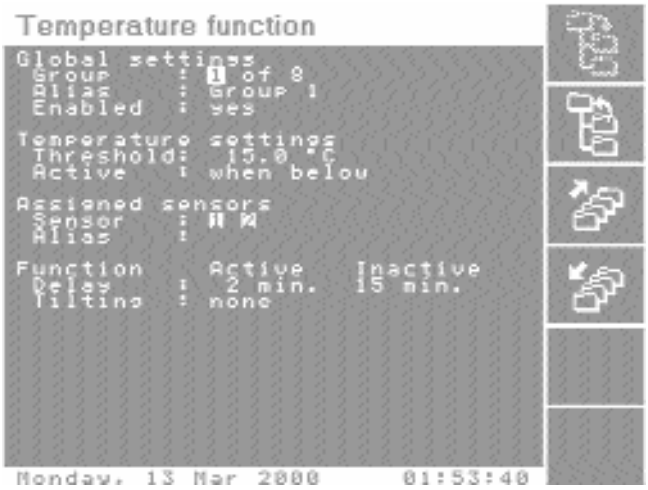
When assigning more than one sensor to this function, the highest measured value of the assigned sensors will be used.

Alias — When the cursor is on a sensor index, the alias shows the corresponding name of that sensor, otherwise this will be blank.

Function

| | |
|---|---|
| Active delay | Set the function active time in minutes. When during this time the function conditions stay true (sun intensity equal or more than the sun threshold high level), the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false (sun intensity below the low threshold), the function becomes inactive. |
| Tilting | Set the desired tilting type for the sun active state. This can be none, fixed or during the day. |

### 4.7.3 Temperature function




*Picture 26: Menu temperature function*

The temperature function will steer the sunshade as function of the measured temperature.

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the temperature function. |

Temperature settings

| | |
|---|---|
| Threshold | Set the temperature threshold.<br>Set when the temperature function will become active. |
| Active | When below<br>The temperature function will become active when the actual temperature is below the programmed threshold.<br><br>When above<br>The temperature function will become active when the actual temperature is above the programmed threshold. |

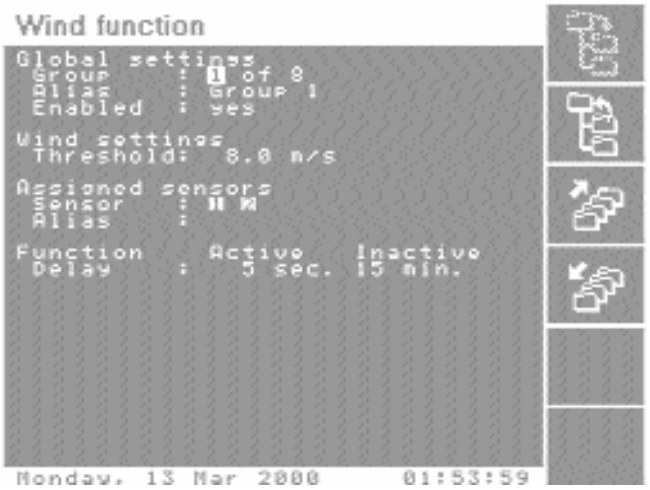
Assigned sensors

| | |
|---|---|
| Sensor | Gives a list of all possible sensors which can be assigned to this function. When moving the cursor over the different sensor indexes, the alias will show the corresponding name of that sensor. When assigning more than one sensor to this function, the highest measured value of the assigned sensors will be used. |
| Alias | When the cursor is on a sensor index, the alias shows the corresponding name of that sensor, otherwise this will be blank. |

Function

| | |
|---|---|
| Active delay | Set the function active time in minutes. When during this time the function conditions stay true, the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false, the function becomes inactive. |
| Tilting | Set the desired tilting type for the temperature active state. This can be none, fixed or during the day. |

### 4.7.4 Wind-function




*Picture 27: Menu wind function*

The wind function will steer the sunshade as function of the measured wind speed.

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the wind function. |

Wind settings

| | |
|---|---|
| Threshold | Set the wind speed threshold. The wind speed threshold must always be above the wind speed threshold of the wind direction function. |

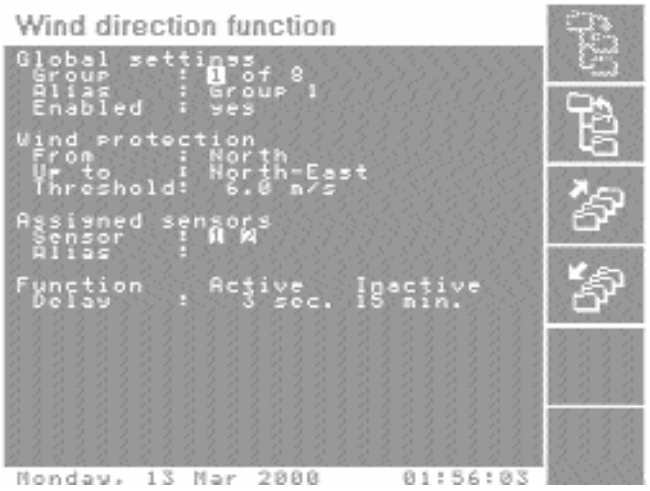
Assigned sensors

| | |
|---|---|
| Sensor | Gives a list of all possible sensors which can be assigned to this function. When moving the cursor over the different sensor indexes, the alias will show the corresponding name of that sensor. When assigning more than one sensor to this function, the highest measured value of the assigned sensors will be used. |
| Alias | When the cursor is on a sensor index, the alias shows the corresponding name of that sensor, otherwise this will be blank. |

Function

| | |
|---|---|
| Active delay | Set the function active time in seconds. When during this time the function conditions stay true (wind speed equal or more than the threshold level), the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false (wind speed below threshold), the function becomes inactive. |

### 4.7.5 Wind direction function




*Picture 28: Menu wind direction function*

The wind direction function will steer the sunshade as function of the wind speed in combination with the wind direction.

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the wind direction function. |

Wind protection

| | |
|---|---|
| From | Set the start angle of the protected wind direction area. |
| Up to | Set the stop angle of the protected wind direction area. |
| Threshold | Set the wind speed threshold. The wind speed threshold must always be below the wind speed threshold of the wind function. |

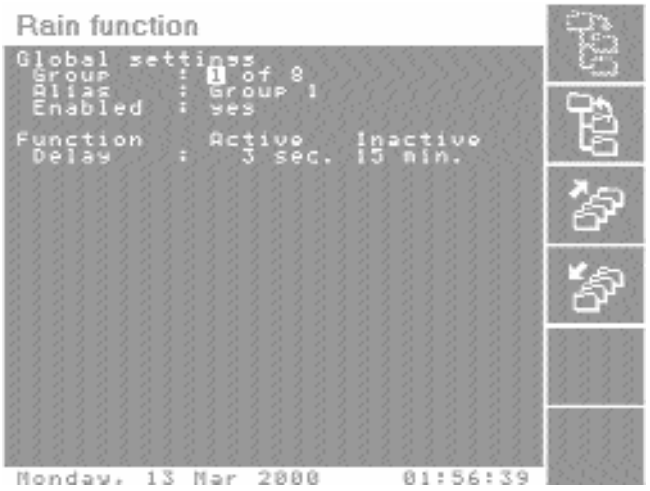
Assigned sensors

| | |
|---|---|
| Sensor | Gives a list of all possible sensors which can be assigned to this function. When moving the cursor over the different sensor indexes, the alias will show the corresponding name of that sensor. When assigning more than one sensor to this function, the highest measured value of the assigned sensors will be used. |
| Alias | When the cursor is on a sensor index, the alias shows the corresponding name of that sensor, otherwise this will be blank. |

Function

| | |
|---|---|
| Active delay | Set the function active time in seconds. When during this time the function conditions stay true (wind speed equal or more than the threshold level and wind direction inside protected area), the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false (wind speed below threshold or wind direction outside protected area), the function becomes inactive. |

### 4.7.6 Rain function




*Picture 29: Menu rain function*

The rain function will steer the sunshade as function of the rain.

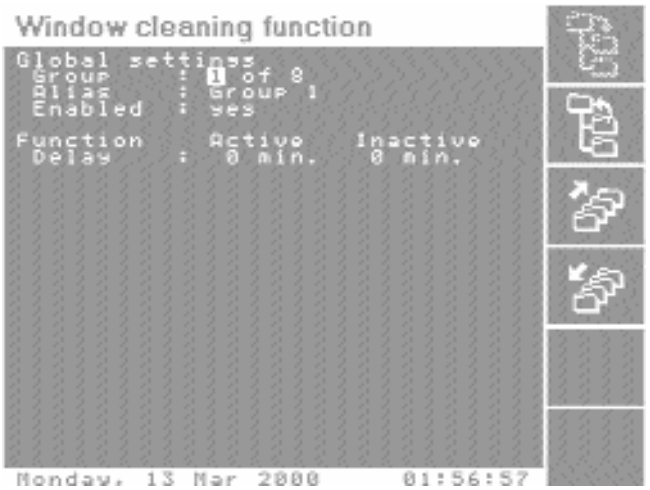
Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the rain function. |

Function

| | |
|---|---|
| Active delay | Set the function active time in seconds. When during this time the function conditions stay true (rain), the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false (no rain), the function becomes inactive. |

### 4.7.7 Window cleaning function




*Picture 30: Menu window cleaning function*

The window cleaning function will steer the sunshade as function of the window cleaning input.

Global settings

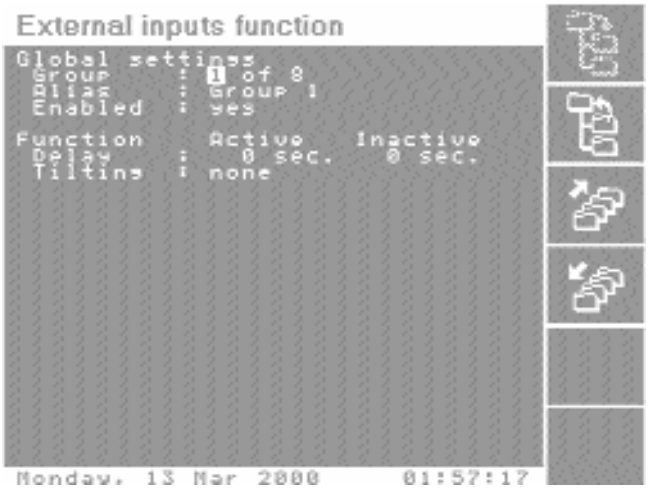
| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the window cleaning function. |

Function

| | |
|---|---|
| Active delay | Set the function active time in minutes. When during this time the function conditions stay true (window cleaning input active), the function becomes active. |

Inactive delay — Set the function inactive time in minutes. When during this time the function conditions stay false (window cleaning input inactive), the function becomes inactive.

### 4.7.8 External inputs function




*Picture 31: Menu external inputs function*

The external inputs function will steer the sunshade as function of the external inputs.

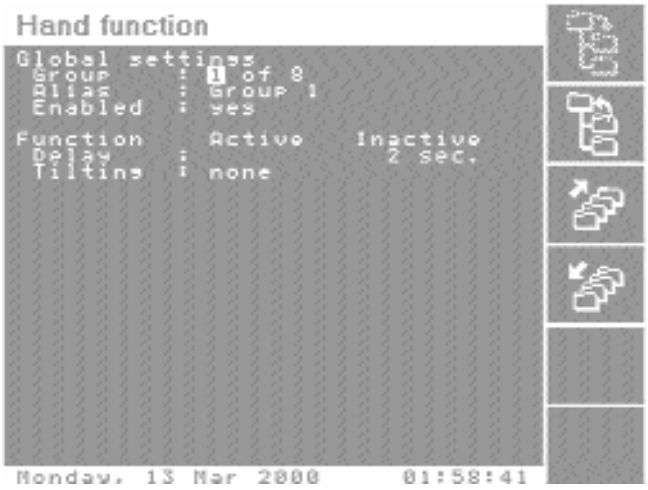
Global settings

- Group — Group selection.
- Alias — Shows the alias of the current selected group.
- Enabled — Enable or disable the external inputs function.

Function

- Active delay — Set the function active time in seconds. When during this time the function conditions stay true (external input UP/DOWN active), the function becomes active.
- Inactive delay — Set the function inactive time in seconds. When during this time the function conditions stay false (external input UP/DOWN inactive), the function becomes inactive.
- Tilting — Set the desired tilting type for the external inputs function active state. This can be none, fixed or during the day.

### 4.7.9 Hand function




*Picture 32: Menu hand function*

The hand function will steer the sunshade as function of hand given commands.

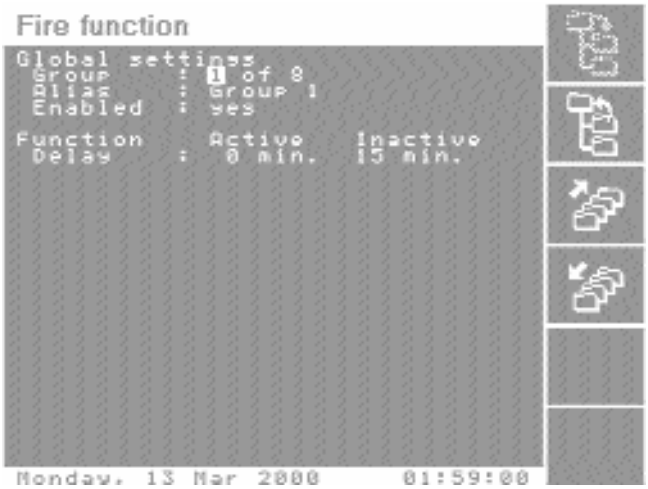
Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the hand function. |

Function

| | |
|---|---|
| Inactive delay | Set the function inactive time in seconds. When during this time the function conditions stay false, the function becomes inactive. |
| Tilting | Set the desired tilting type for the external inputs function active state. This can be none, fixed or during the day. |

### 4.7.10 Fire function




*Picture 33: Menu fire function*

The fire function will steer the sunshade as function of the fire input.

Global settings

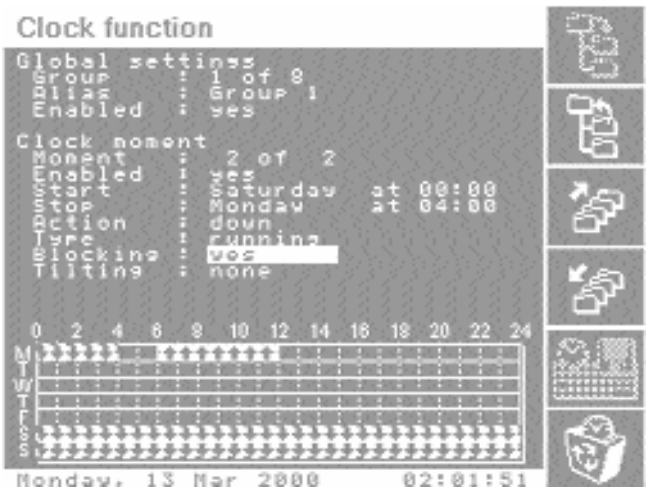
| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the fire function. |

Function

| | |
|---|---|
| Active delay | Set the function active time in minutes. When during this time the function conditions stay true (fire), the function becomes active. |
| Inactive delay | Set the function inactive time in minutes. When during this time the function conditions stay false (no fire), the function becomes inactive. |

# Configuration

### 4.7.11 Clock function




*Picture 34: Menu clock function*

The clock function will steer the sunshade as function of programmed time slots.

Global settings

| | |
|---|---|
| Group | Group selection. |
| Alias | Shows the alias of the current selected group. |
| Enabled | Enable or disable the clock function. |

Clock moment

| | |
|---|---|
| Moment | Select the time slot to modify. |
| Enabled | Enable or disable the current selected time slot. When a time slot is disabled, it will not be executed. In some cases it can be handy to temporarily disable one or more time slots. |
| Start | Set the start day and time for the current time slot. |
| Stop | Set the stop day and time for the current time slot. A time slot may be programmed over one or more days. |
| Action | Set the command action to perform when this time slot becomes active. The command action can be UP or DOWN. |
| Type | Set the command type: running or continuously. |
| Blocking | Enable or disable the blocking relays. Setting the blocking is only possible when the command type is running. When blocking is enabled, no individual control in the room of the particular group is possible. The sunshade will be blocked.<br>When blocking is set to no, individual control in the room of the particular group is possible. |
| Tilting | Set the desired tilting type for this time slot. This can be none, fixed or during the day. |

In total 28 time slots can be programmed. Time slots may not overlap each other.

## 5 Troubleshooting

| Fault | Possible cause | Remedy |
|---|---|---|
| The device doesn't work at all. | No power supply or defective fuse. | Check if the green LED on the front is on. If not check the power supply and fuse. |
| The display is very difficult to read. | The backlight is off. | Press any key to activate the backlight. |
| The relays switch but nothing happens. | There is no voltage applied on the relay commons, or the ground is not connected. | Apply a voltage on the commons or check the ground. |
| Not all outputs are working properly. | Not all the terminals are connected or not all groups are enabled. | Check if all terminals are connected.<br>Groups are activated? |
| The message "Sun sensor xx defect" appears. | Bad connection or short circuit. | Check sun sensor connection. |
| The message "Wind sensor xx defect" appears. | Bad connection or short circuit<br>Jumper J1 / J2 in wrong position. | Check wind sensor connection and jumper placement (chapter 1.2.3). |
| The message "Wind direction defect" appears. | Bad connection or short circuit<br>Jumper J3 in wrong position. | Check wind direction connection and jumper placement (chapter 1.2.4). |
| The message "Temperature sensor xx defect" appears. | Bad connection or short circuit. | Check the temperature sensor connections. |
| The sun shines but the sunshades are not extended. | Sun sensor assignment not correct. | Check if the sun sensors are assigned to the correct groups. |
| | The manual operation is active. | Check if the device is in automatic operation (Menu: CONTROL) |
| | A function with a higher priority is active. | Check if a function with a higher priority is active (Menu: STATE OF FUNCTIONS). |
| | The sun intensity is lower than the set threshold. | Check the threshold (Menu: CONFIGURATION). |

## 6 Technical data

| | | |
|---|---|---|
| Power supply: | 230 V~, 50 Hz | |
| Rated power: | 30 W | |
| Fuse: | 500 mAT, 5 × 20 mm | |
| Output: | Relay output, potential-free | |
| Maximum load:: | 12A, 230 V~, cos $\varphi \geq 1$ | |
| | 12A, 24 V= | |
| Switching time: | 0.1s – 3600s | |
| | 0.1s – 99.9s | in steps of 0.1s for tilting time |
| | 0.1s – 1s | in steps of 0.1s for running time |
| | 1s – 3600s | in steps of 1s for running time |
| Operating temperature: | 0 °C bis +40 °C | |
| Dimensions: | 323 mm × 326,7 mm × 85 mm (without cable inlets) | |
| IP class: | IP54 (unused cable inlets must be closed) | |
| Cable inlets: | 14 × PG9 top side | |
| | 10 × PG11 bottom side | |

The information in this operating instruction is subject to change at any time and without notice!

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