Control System WS1 Color / WS1000 Color: First steps

Technical specifications and installation instructions
Item numbers 60135-60142, 60145-46 (WS1 Color)

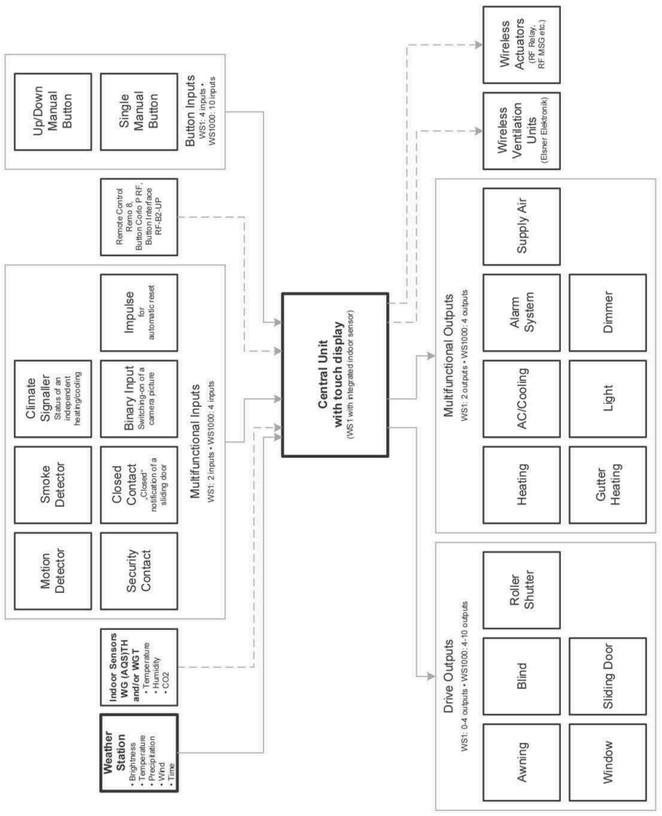
Item numbers 60121-60128 (WS1000 Color)

The manual with additional information about commissioning, functions and use of the controls **WS1/WS1000 Color** can be downloaded from www.elsner-elektronik.de in the menu area "Service/Downloads".

Field of application

The control system was developed so that the different technical equipment installed in conservatories and buildings could be centrally controlled. The control units offer the highest measure of flexibility with regard to connections, allowing settings to be optimally and individually adjusted to the circumstances on site. Please use this operational guide to adjust the automatic functions to your requirements and enable comfortable manual operation.

Connection and control options



The following **environmental parameters** will be measured and displayed:

- Outdoor and indoor temperature
- Air humidity inside
- Lighting (intensity and direction, twilight recognition)
- Wind speed
- Precipitation
- Time/date

The following drives can be connected to the **drive outputs**:
(WS1 Color: 0-4 drive outputs, WS1000 Color: 4-10 drive outputs)

- Electrically-operated awnings
- Electrically-operated blinds
- Electrically-operated shutters
- Electrically-operated windows and sliding roofs
- Electrically-operated sliding doors

The following devices can be connected to the **multifunctional outputs**:
(WS1 Color: 2 MF outputs, WS1000 Color: 4 MF outputs)

- Heating
- Cooling
- Alarm equipment
- Lighting
- Roof gutter heating
- Ventilation units
- Dimmer (for a light)

The following can be connected to the **multifunctional inputs**:
(WS1 Color: 2 MF inputs, WS1000 Color: 4 MF inputs)

- Motion detector
- Smoke detector
- Climate sensor (A climate or heating unit which is independent of the control unit. Status query “active”/“not active”, for cancelling ventilation)
- Safety contacts to keep drives in secured position
- Closed-contact for closing notification of a sliding door
- Impulse for automatic reset (e.g. button or impulse at alarm activation)
- Binary contact

The following devices can be connected via a **wireless connection**:

- WGTH and WG AQS/TH indoor sensors for measuring temperature, humidity and CO_2 at various places in the room. This allows various climate areas to be realised (e. g. living and plant areas in the conservatory)
- WGT temperature sensor for temperature measurement at various places in the room and, for example, in the ground for control of the floor heating
- Radio remote control Remo 8/pro, push buttons Corlo P RF, push button interface RF-B2-UP
- Elsner ventilation devices (WL400, WL800, WL-Z)
- Fan module RF-VM for connecting fans/circulating air heating units from other manufacturers
- RF relay (radio relay, On/Off)
- RF MSG (radio motor control device, Up/Down)

The following **additional options** are available:

- Connection of up to 10 external Up/Down wall buttons for manual operation of drives and devices on the spot
- Connection of up to 2 video cameras via an optional camera interface

The followingfunctions are available with **WS1000 Color** only:

- Presentation of a slideshow on SD card, data storage on SD card

Delivery scope

- Central control and operations unit
  WS1 Color: With integrated indoor sensor. With 1, 2, 3 or 4 drive outputs for 230 V motors or without drive outputs, depending on model.
  WS1000 Color: With 4, 6, 8 or 10 drive outputs for 230 V motors, depending on model.
- Weather station

Additionally with WS1000 Color:

- Indoor sensor with frame
  (You need a socket ø 60 mm, 42 mm deep *additionally*)
- Stylus

Commissioning

Installation notes

Installation, testing, operational start-up and troubleshooting should only be performed by a qualified electrician.

DANGER!
Risk to life from live voltage (mains voltage)!

- Inspect the device for damage before installation. Only put undamaged devices into operation.
- Comply with the locally applicable directives, regulations and provisions for electrical installation.
- Immediately take the device or system out of service and secure it against unintentional switch-on if risk-free operation is no longer guaranteed.

Use the device exclusively for building automation and observe the operating instructions. Improper use, modifications to the device or failure to observe the operating instructions will invalidate any warranty or guarantee claims.
Operate the device only as a fixed-site installation, i.e. only in assembled condition and after conclusion of all installation and operational start-up tasks, and only in the surroundings designated for it.
Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

Procedure

Installation, testing, commissioning and fault repair should only be carried out by a qualified electrician.

To install the control unit, proceed as follows:

- Installation
- Commissioning
- Basic setting in the menu **System > Installation**
- Automatic settings in the menu System > Automatic Settings

Weather data display (starting image)

As a starting image, the control system shows the current weather data:

Sun data

Intensity: Light intensity (brightness) in Lux (lx) or Kilolux (klx)
Direction: Direction (azimuth) in degrees
Height: Elevation over the horizon in degrees

Wind

The wind speed will be shown in metres per second (m/s) and the windsock changes:

Calm: up to 1.9 m/s

Slight wind: 2.0 to 9.9 m/s

Strong wind: 10.0 m/s and up

A caution flag appears besides the wind symbol if wind alarm has been triggered for a drive.

Outdoor temperature

Outdoor temperature at the weather station in degrees Celsius (°C)

Night-time Re-cooling, **Frost Alarm** and **Window Movement Limitation** are displayed in turn next to the outdoor temperature value as long as the relevant function is active.

📖3.3. Set night_time re-cooling (ventilation)
📖3.3. Adjust frost alarm
📖3.3. Set movement limitations (windows)

Indoor information

Temperature in degrees Celsius (°C)
Air humidity in %RH

You may select which indoor information is displayed (e. g. if several sensors are connected).

☐ System > Installation > Weather Display
📖 6.1. Indoor sensor for weather display

The touch display

Manual control, as well as setting the defaults for the automatic functions and the connected equipment, is via the control’s stationary touch display. The button surfaces are operated in this area by touching the display. When a button is activated, there is visual feedback and a brief audio signal sounds. The sound can be switched off.

☐ System > WS1 / WS1000 Settings > Settings > Button tone

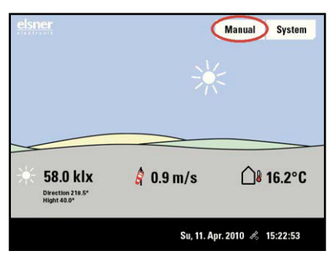
If the push buttons shown do not match up with the touch-sensitive surfaces (you have to press “next to the button”), the touch display can be calibrated as follows.

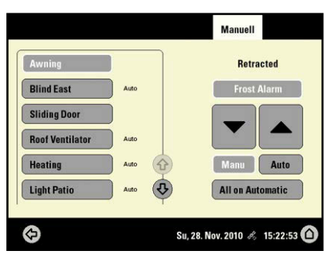
☐ System > WS1 / WS1000 Settings > Settings > Calibrate touch

Operating the display with long fingernails will not damage the screen or the touch function. Touching the display with very hard or pointed objects (e.g. those made from glass, gems or metal) should be avoided as this can cause marks.

The „Manual“ menu

You can reach the menu for manual control of drives and equipment by using the button **Manual**:





Here you can operate all connected drives and devices directly: Use the buttons to select the name of the drive or device you want to operate. You can change the order of the list in the **System** menu.

☐ System > Installation > Channel Order
📖 6.1. Define channel order

Use the arrow keys to scroll through the list.

The selected device is marked in white. On the right-hand side you will receive status information (e.g. on/off, open/closed, exhaust air level, error messages) and various control options (up/down arrow keys or on/off buttons).

The **Down** and **Up** buttons are fitted with automatic time functions.

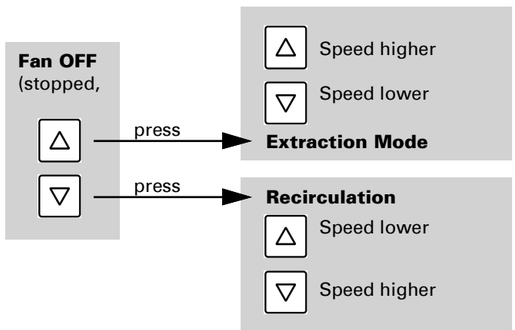
Drives:

The drive can be precisely positioned with brief button presses (less than 1 second, short audio signal). For shutters and roller blinds, only a short step-movement command is triggered. If the button is pressed for longer than 1 second (higher audio signal: locking signal), the drive moves independently to the end position. A brief press in the opposite direction stops the drive.

For shades and windows, the movement position is shown in percent above the Up-/Down buttons (for blinds, also the slat position). For radio motor control units, the position shown can deviate from the movement position set in the automatic mode by up to 2%.

Ventilation units WL400 and WL800:

Ventilation units WL400 and WL800 are operated in 10% steps by briefly pressing the button (less than 1 second, brief sound, 10 ventilation levels). By pressing the button longer, the fan speed is changed continuously. Release the button to stop speed change.
Note: In rare cases, radio disturbances can lead to continuing speed change after having released the button. Please briefly press the other direction then.

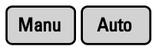


Block because of rain, wind or frost alarm:

If a drive group is momentarily blocked for manual operation by a **rain, wind or frost alarm**, the arrow keys will be greyed out and may not be used. The message “Rain alarm” and/or “Wind alarm” is shown.

The frost alarm can be deactivated by pressing the corresponding button (see diagram); manual operation is then possible again. The frost block will then be first active for this drive again when it is reactivated manually or the next time the frost alarm is triggered.

ATTENTION
Material damage due to movement of frozen shading elements!
The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!
- Make shure the rails are no longer frozen before manually switching off the frost alarm.



Whether a drive or device is in automatic mode or manually operated can be recognised from the white marking on the buttons on the right and the text “Auto” next to the name button in the list on the left. By pressing the button you can switch from one to another.

After being operated manually the drive or device remains in manual mode. The automatic functions are thus switched off and only the rain and wind protection will be carried out. The equipment will only switch back into automatic mode when reset by hand (“Manu” button) or through the daily automatic reset. In the Automatic menu, the automatic reset can be activated separately for each drive group and each device.

This button allows you to perform the automatic reset manually. All systems for which an automatic reset has been set are then set to automatic mode.

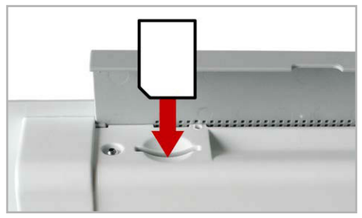
Back to the weather data display (starting image)

Slideshow

This function is not available with WS1 Color.

The WS1000 Color can play back digitally-stored image data as a slideshow. For this, the image data must be saved onto an SD card and fulfil the following requirements:

- Data format Bitmap (BMP)
- Size 640 x 480 pixels
- Color intensity 24 bit or 16 bit
- No compression (RLE)
- The data must be saved in the uppermost level of the card's directory (root directory)



The SD card slot can be found beneath the covering flap. The SD card is pushed into the slot, until it clicks into place.

The card will automatically be recognised. If image data are stored on the card, the symbol for „play-back“ appears at the bottom right-hand side of the weather data display.

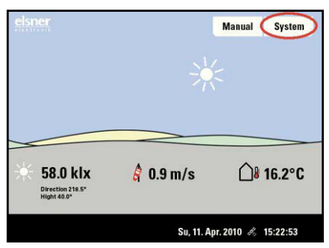
Press „play-back“ to start the slideshow.

The image changes approx. every 45 seconds (for images with 24-bit color intensity). To return to the weather data display, touch the screen or remove the SD card (briefly press down on the card so that it pops out).

Further information about the image display can be found in chapter
📖 6.2. Using an SD card

Navigation in the System menu

All settings for drives and devices, for the automation and the control system are changed in the System menu, which you reach via the **System** button:



In three sub-menus you can carry out the following adjustments:

Installation:
- Specify fundamental characteristics of the drives at inputs/outputs
- Set up wireless connections to devices
- Define the order in which the drives and devices are shown (e.g. in the manual menu)

Automatic settings:
- Define automatic functions for the individual drives and devices
- Adjust general automatic settings: Twilight value, movement delays, forced closure, ventilation block and automatic reset

Control Settings:
- Change personal data such as Time/Date and location and adjust the screen display to your personal preferences
- Restart the control unit, reset to factory defaults and change internal settings
- Set an access code to protect the “Installation” and “Automatic Settings” menus from unauthorised changes.

The following buttons are needed constantly for navigation in the System menu:

Back to the previous menu level (only settings already saved with OK will be applied)

Back to the weather data display (starting image)

Confirms (saves) adjustments made

Info button: Appears in many menus next to the option settings. Press the button for an explanation of the function shown in the upper display area. Press again for the explanation to disappear.

On the top right, beneath the System field, is shown which menu you are currently in as well as the path by which you arrived there. For example, if you are in the Automation menu for the light intensity of the “South awning”, the path will be:

System > Automation > Awning > Awning South > Intensity

Change language

The menus can be shown in German, English, French or Italian. Press the buttons:

Select the desired language for the menues by pressing the button. Confirm your setting with the **OK** button.

Adjust screen

The brightness and automatic shutdown of the display can be adjusted individually. Press the buttons:

In the menu that appears you can switch the automatic brightness adjustment on and off. For this press the **On** or **Off** button.

Select time zone

In order to display date and time correctly, the time zone (relating to GMT) must be specified here. In addition the automatic switch-over to summer time can be set.

You can reach the time zone settings by pressing the buttons:

The **time zone** can be set by pressing the arrow keys in the menu that appears.

Press the button next to Summertime Rule to set the automatic switch-over. Depending on location, select **Europe**, **USA**, **None** (if no summertime switch-over shall take place) or **User-defined** (if the switching shall be set individually).

Confirm your setting with the **OK** button.