KNX WS1000 Style

Building Control System

Item numbers 70193 (white), 70194 (black)

elsner elektronik

Installation and Operation

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Installation, inspection, commissioning and troubleshooting of the device must only be carried out by a competent electrician.

This manual is amended periodically and will be brought into line with new software releases. The change status (software version and date) can be found in the contents footer. If you have a device with a later software version, please check **www.elsner-elektronik.de** in the menu area "Service" to find out whether a more up-to-date version of the manual is available.

Clarification of signs used in this manual

Safety advice.

Safety advice for working on electrical connections, components, etc.

DANGER! ... indicates an immediately hazardous situation which will lead to death or severe injuries if it is not avoided.

WARNING! ... indicates a potentially hazardous situation which may lead to death or severe injuries if it is not avoided.

CAUTION! ... indicates a potentially hazardous situation which may lead to trivial or minor injuries if it is not avoided.

ATTENTION! ... indicates a situation which may lead to damage to property if it is not avoided.

▢ "Control unit"
The symbol is followed by a menu path. In this menu the settings just described can be changed.

🕮 "Manual"
The symbol is followed by chapter information with a page number. In this chapter you will find additional information about the setting just described.

1. Description

1.1. Field of application

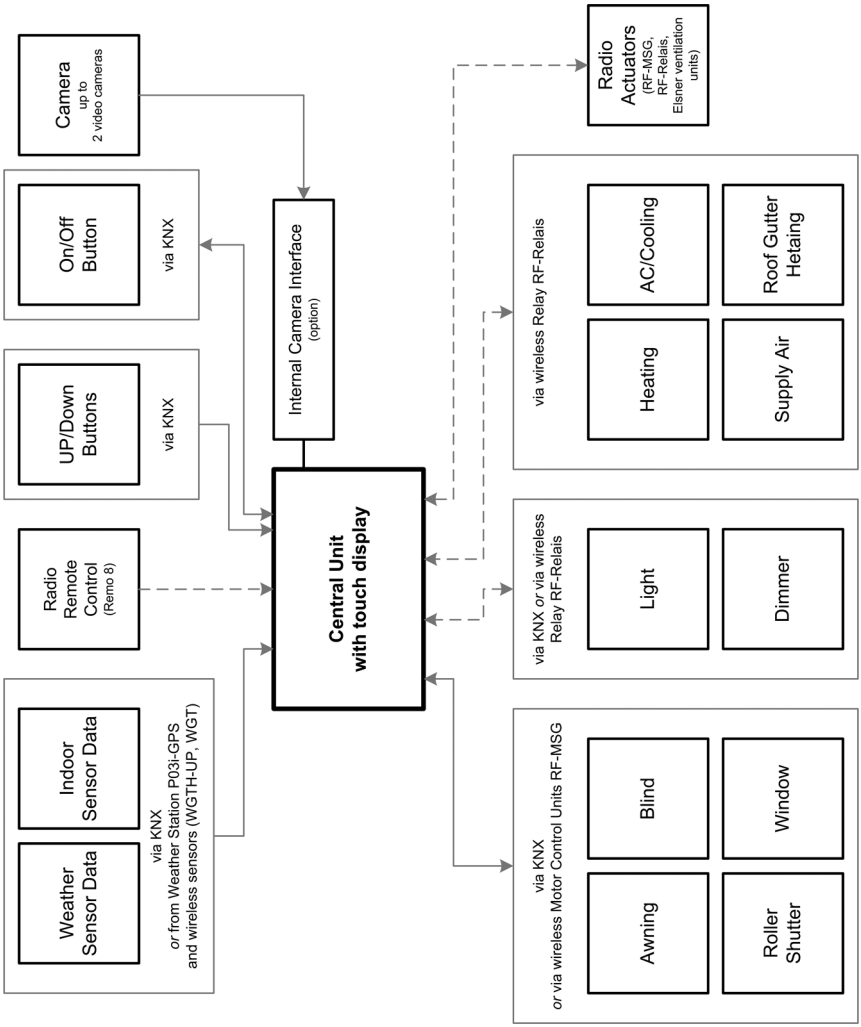
The Control System **KNX WS1000 Style** is an operating unit for the KNX building control system. The graphical touch screen and the integrated automatic functions allow for central setting and operation of the technical equipment installed in the building.

Please use this operational guide to adjust the automatic functions to your requirements and enable comfortable manual operation.

1.1.1. Delivery scope

- Central control and operations unit
- Manual

1.2. Connection and control options



The following **sensor parameters** can be processed by the automatic of the control:

- Outdoor and indoor temperature
- Air humidity inside
- CO2 concentration inside
- Brightness (intensity and direction, twilight recognition)

- Wind speed
- Precipitation
- Time/date, location (position)

The **weather and indoor sensor data** can be received via KNX or from sensors connected directly to the central unit.

- Weather Station P03i-GPS (for outdoor tmeperature, brightness, wind speed, prcipitation, time, location). Connection wired
- Indoor Sensor WGTH-UP (for indoor temperature, air humidity) and Temperature Sensor WGT (for indoor temperature). Connection by radio connection

The data of the weather station connected directly can be transmitted to the KNX system and thus be used by other KNX participants as well.

The following drives and devices available in the KNX system can be controlled by the **KNX WS1000 Style**:

- Awnings
- Blinds
- Shutters
- Windows and sliding roofs
- Lighting
- Dimmer (for a light)

The following devices can be connected via Elsner **Radio Motor Control Units RF-MSG**:

- Awnings
- Blinds
- Shutters
- Windows and sliding roofs

The following devices can be connected via Elsner **Radio Relay RF-Relay**:

- Heating
- Cooling
- Lighting
- Roof gutter heating
- Ventilation units
- Dimmer

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

- WGTH-UP indoor sensors for temperature and humidity measurement
- WGT temperature sensor for temperature measurement
- Radio remote control Remo 8
- Elsner ventilation devices (WL610, WL305, WFL)
- 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:

- Reception of push-button commands from the KNX system (local Up/Down or On/Off buttons)
- Connection of up to 2 video cameras via an optional camera interface
- Presentation of a slideshow on SD card, data storage on SD card

1.2.1. Automatic functions in overview

Devices connected via the **"Dimmer" output** (e.g. lighting) have no automatic functions. They can however be operated manually via the display.

Automatic functions for windows/sliding roofs:

- Opening above a selectable indoor temperature (can be switched off)
- Opening above a selectable air humidity level in the room (can be switched off)
- Close when the supply air temperature is higher than the room temperature (can be switched off)
- Night-time re-cooling (settable running times)
- Daily forced closure (settable running times)
- Outdoor temperature block: Block beneath a selectable outdoor temperature (can be switched off)
- Keep closed in a period which can be set
- Frost alarm: Close in case of precipitation beneath a selectable outdoor temperature (can be switched off)
- Wind alarm: Close when a selectable wind speed is exceeded (can be switched off)
- Rain alarm: Close when there is precipitation or move to a gap (can be switched off)
- Closing when cooling/air-conditioning unit is active

Step windows will be opened step-by-step. An opening position can be set for sliding windows.

Automatic functions for awnings:

- Extend according to brightness and the position of the sun
  or retract regardless of brightness (extending only manually)
  or extend regardless of brightness (visual protection, automatically retraction only when there is a rain or wind alarm)
- Adjustable movement position
- Keep retracted until a selectable indoor temperature is reached (can be switched off)
- Outdoor temperature block: Block beneath a selectable outdoor temperature (can be switched off)
- Frost alarm: Retract in case of precipitation beneath a selectable outdoor temperature (can be switched off)
- Wind alarm: Retract when a selectable wind speed is exceeded (can be switched off)

- Rain alarm: Retract when there is precipitation (can be switched off)

Automatic functions for blinds:

- Closing according to brightness or position of the sun
  or keep open regardless of brightness (only time-controlled or manual closing)
  or keep closed regardless of brightness (visual protection, automatically retract only when there is a rain or wind alarm) with light reversal
- Adjustable movement position and slat position (slat tracking of the sun height possible)
- Leave open until a selectable indoor temperature is reached
  (can be switched off)
- Close at night/twilight (can be switched off)
- Close daily (settable running times)
- Outdoor temperature block: Block beneath a selectable outdoor temperature (can be switched off)
- Frost alarm: Retract in case of precipitation beneath a selectable outdoor temperature (can be switched off)
- Wind alarm: Retract when a selectable wind speed is exceeded (can be switched off)
- Rain alarm: Retract when there is precipitation (can be switched off)

Automatic functions for shutters:

- Closing according to brightness or position of the sun
  or keep open regardless of brightness (only time-controlled or manual closing)
  or keep closed regardless of brightness (visual protection, automatic retraction only when there is a rain or wind alarm)
- Adjustable movement position
- Leave open until a selectable indoor temperature is reached
  (can be switched off)
- Close at night/twilight Leave open until
- Close daily (settable running times)
- Outdoor temperature block: Block beneath a selectable outdoor temperature (can be switched off)
- Frost alarm: Retract in case of precipitation beneath a selectable outdoor temperature (can be switched off)
- Wind alarm: Retract when a selectable wind speed is exceeded (can be switched off)
- Rain alarm: Retract when there is precipitation (can be switched off)

Automatic functions for heatings:

- Switch on daily below a selectable indoor temperature
- Night setback (with adjustment of time and temperature until the setback is made)

Automatic functions for coolings and air-conditioning units:

- Switch on daily above a selectable indoor temperature
- Night mode (with adjustment of time and temperature until cooling takes place)
- Cancel ventilation when cooling/air-conditioning unit is active

Automatic ventilation functions:

- Ventilation above a selectable indoor temperature (can be switched off)
- Ventilation above a selectable air humidity level in the room (can be switched off)
- Winter operation: supply air will be closed below a selectable outdoor temperature (can be switched off)
- Summer operation: supply air will be shut off if outdoor temperature is higher than room temperature
- Adjustable minimum and maximum speeds for motorised fans
- Night-time re-cooling (settable running times)
- Daily forced ventilation (settable running times)
- Additionally with roof ventilators WL610 and WL305: recirculating air for heat recovery; recirculating air to avoid condensation
- Cancel ventilation when cooling/air-conditioning unit is active

Automatic functions for light:

- Switch on daily (settable running times, with and without twilight recognition)
- Switch on at twilight

Automatic functions for roof gutter heatings:

- Switch on within an adjustable temperature range

2. Operation

2.1. 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)

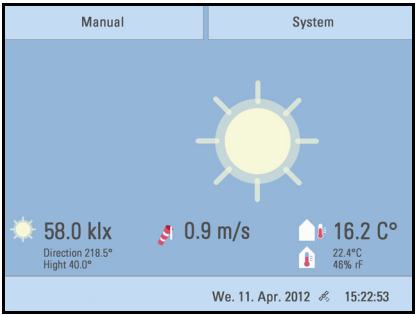
Indoor information

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

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

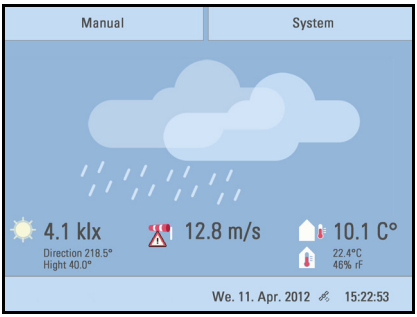
☐ System > Installation > Weather Display
🕮 6.1. Indoor sensor for weather display

The general weather situation is shown graphically:



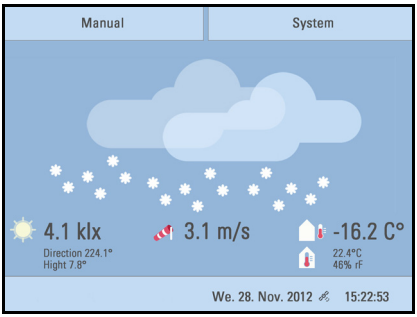
Sunny or cloudy:

The sun moves across the sky according to its current direction and height.



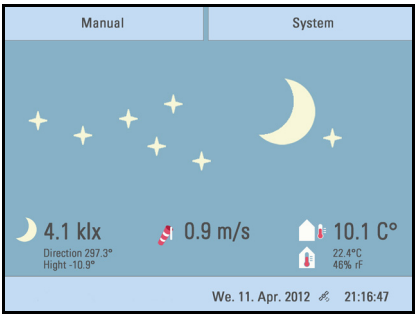
Rain:

When there is a precipitation report and temperatures above -3 °C, it is raining.



Snow:

When there is a precipitation report and temperatures below -3 °C, it is snowing.



Night:

At night (twilight) the display will be darker; instead of the sun, the moon and stars will appear.

The date and time will be shown on the lower right on the display. The following symbols are displayed, depending on which source the time signal is from:

GPS reception (from weather station)		Satellite
Reception of time via KNX bus (WS1000 Color) Position must be entered manually for shading control: ▢ System > WS1000 Settings > Settings > Position 🕮 6.2.1.Enter position		Clock

2.2. 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
🕮 6.2.1. 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.

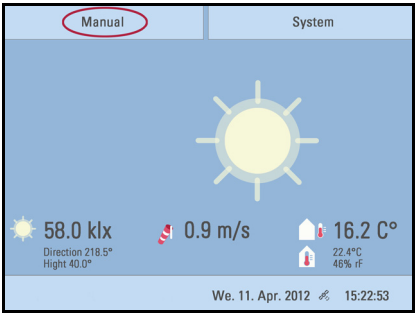
▢ System > WS1 / WS1000 Settings > Settings > Calibrate touch
🕮 6.2.1. Calibrate touch

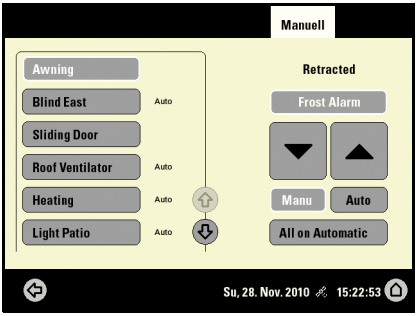
Operating the display with long fingernails will not damage the screen or the touch function. Touching the display with very hard or pointed objects (e.g. those made from glass, gems or metal) should be avoided as this can cause marks.

2.3. Manually operate drives and devices

2.3.1. The „Manual“ menu

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



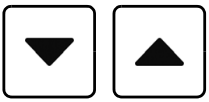


Here you can operate all connected drives and devices directly: Use the buttons to select the name of the drive or device you want to operate. You can change the order of the list in the **System** menu.

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.

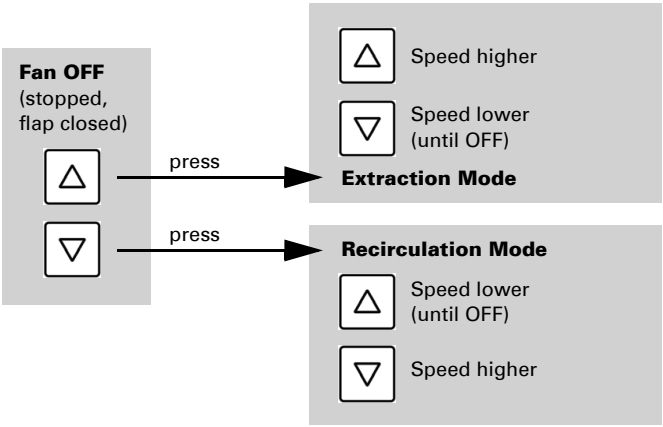
Drives:

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.

STOP **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.

Manu Auto

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.

Automatic Reset

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)

External buttons

Drives and devices may be operated locally with wall push-buttons. External buttons can be set as bus push-buttons in the ETS (up/down or on/off). In the System menu the individual buttons can be assigned to any drives or devices.

- System > Installation > KNX Settings > Functional Blocks > [Buttons]
- 8.2. Settings for communication with KNX

2.3.2. Internal buttons (group buttons)

It is possible to operate several drives or devices at the same time via a collective group button (internal software button). This makes it possible to close all windows with a single button press, for example. These group buttons can be set up in the System menu.

- System > Installation > Int. Buttons
- 6.1. Assign internal buttons (group buttons)

2.3.3. Remote control

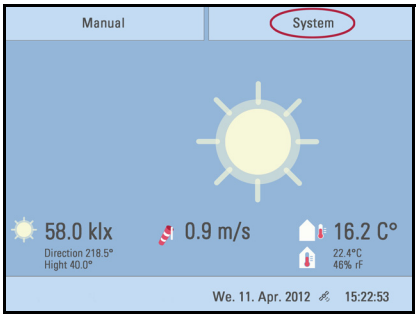
Drives and equipment can be controlled by using the remote controller Remo 8, which can be ordered among the accessories. The hand-held transmitter must be configured in the control as a participant to the radio network. Then follows the allocation of drives

and equipment to the eight remote control channels. In the control, several Remo 8 devices can be configured.

6.1. Wireless connections

2.4. Navigation in the System menu

All settings for radio communication, the automatic functions and for the control unit itself are changed in the System menu (devices connected via KNX have to be configuered in the ETS first). You will reach the System menu of the control via the **System** button:



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

Installation:

- Set KNX communication
- Create internal buttons (group buttons)
- Set up wireless connections to devices
- Select sensor for weather data display
- 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

2.4.1. Input keyboard for names and codes

In some menus an input keyboard for names and codes appears. The words can be typed in completely normally.

Special keys:

Selects the input keyboard for letters and numbers.

Selects the input keyboard for symbols and umlauts.

Delete. Removes the preceding character.

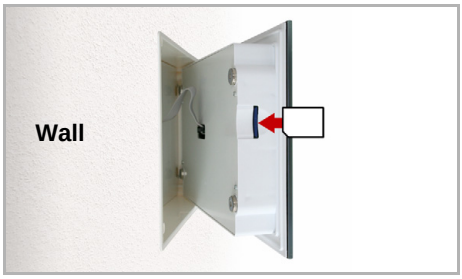
Shift key. Switches between upper and lower case letters.

2.5. Slideshow

The **KNX WS1000 Style** 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 on the inner face of the housing.

The display is held on the wall by magnets. It is connected to the power electronics in the concealed box with a cable. Lift the display unit to the front without breaking the cable connection.

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

3. Automatic settings

3.1. Automatic settings

In the menu **System > Automatic Settings** you can make the following adjustments:

- Define automatic functions for the individual drives and devices
- Adjust general automatic settings: Twilight value, movement delays, timer, ventilation block, night time re-cooling, frost alarm and automatic reset

In order to set the automatic functions, the basic settings in the ETS an in the controls menu **System** must already have been made.

📖 8. Basic setting ETS
📖 6. Basic setting WS1000

Please adjust the settings for drives and devices to your individual circumstances. Only in this way can alarm and blocking functions like rain or wind warnings help to protect external awnings or prevent rain from coming in through the window.

If weather data is received via the bus (no weather station is connected directly to the control), the location of the building has to be entered. Only then shadings will be controlled correctly according to direction and height of the sun.

▢ System > WS1000 Settings > Settings > Location
📖 6.2.1. Enter location

3.1.1. Safety notice for automatic and alarm functions

WARNING!
Risk of injury due to automatically moved components!
The automatic control may cause parts of the system to travel and pose a danger to humans.
• No persons may remain in the travelling range of parts driven by an electric motor.
• Adhere to the relevant building regulations (see guideline for power-operated windows, doors and gates BGR 232 et al).
• Always disconnect the system from the mains power before maintenance or cleaning (e.g. switch off/remove fuse).

Precipitation warning for automatically controlled windows:

Some time can pass before falling rain is recognised by the sensors in the system, depending on the rain amount and outdoor temperature. Furthermore, a closure time must be calculated for electrically-actuated windows or sliding roofs. Humiditysensitive items should therefore not be placed in an area where they might be damaged by incoming precipitation. Please also bear in mind that in the event of a power failure and rainfall, a window will not be automatically closed if no emergency generator is installed.

Running rails of shades icing up:

Note that the rails of shutters, awnings and blind which are externally mounted can ice up. Operating the drive under such conditions can damage the shades and drives.

Power failure, maintenance works, etc. (restart of control)

If a power outage occurs, the control unit can no longer control the connected drives! If the functional scope must be guaranteed even during a power cut, an emergency power unit with a corresponding switch from network power to emergency operation should be installed by the customer.

Settings saved in the control unit programme will be maintained even during a power outage.

Note: After every re-start (e. g. return of voltage after mains failure or manual reset) all drives and devices with active automatic reset are in automatic mode.

If cleaning or maintenance work is to be carried out in the conservatory/building, the control unit should be de-energised and secure against restart by disconnection of the customer-installed fuse. This ensures that the connected drives cannot start.

3.1.2. Automatic settings for drive groups and devices

3.1.3. Drives and devices without automatic functions

Devices connected via the **"Dimmer" output** (e.g. lighting) have no automatic functions. They can however be operated manually via the display.

3.1.4. Automatic awning settings

For connected awnings or awning groups the following automatic settings can be changed:

- Light intensity
- Direction of sun
- Height of sun
- Movement position
- Indoor sensor to be used for the awning
- Indoor temperature block
- Outdoor temperature block
- Frost alarm
- Wind alarm
- Rain alarm
- Enable/Disable automatic reset

Alarm functions

Alarm functions are used for awnings in manual and in automatic mode.

During **frost, wind or rain alarm** the awnings are retracted and cannot be manually extended.

Shade settings

The settings are only executed if an awning is in automatic mode and none of the alarm functions named above is active.

Highest priority is assigned to the **outdoor temperature-block**, followed by the **indoor temperature-block** (retract).

Only when the direction and height of the sun agree and there is no active block is the **automatic shading by light intensity** engaged.

Setting of the automatic

The automatic awning functions can be accessed by pressing the buttons:

Now you can select individual awnings and adjust their settings. For each awning the following settings can be changed:

Press the button to set the brightness above which the awning will be deployed to offer shade.

Adjust value: Use the arrow buttons to change the value as you wish.
Default setting: 40 kLux.
📖 7.2. Units for sun and wind

Remain retracted: If the awning should not react to the brightness, select **Never**. The awning will then remain retracted unless it is manually operated.

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

For the automatic system to react, the set light intensity value must be exceeded or undercut for the duration of the delay times. This prevents constant extensions and retraction of the awning during rapid-changing light conditions. The movement delays can be adjusted.

☐ System > Automatic Settings > General Settings > Movement Delays
📖 3.3. Adjust movement delays (shading elements)

Direction of sun

Press the button to set the range (sun direction) in which the sun shall be, so that the awning provides shade.

All directions: If the sun's orientation is not decisive for shading purposes, select **All sides** (default setting).
Direction: If the shade should only be deployed when the sun is in a specific orientation, select as appropriate: **West**, **South-West**, **South**, **South-East** or **East**. The thickened part of the circle in the centre shows the selected area.
Enter angle: To set the range in which shading shall be provided in exact numbers, press the "from **0°**" or "to **360°**" and adjust the numeric values with the arrows keys that appear.

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

For as long as no time signal has been received and the time has not been entered manually (the display on the control unit will show "Please set clock!"), the shades will only be controlled based on light intensity, temperature and alarm reports. The position of the sun will not be taken into account.

Height of sun

Press the button to set the range (sun height) in which the sun shall be, so that the awning provides shade.

Any angle: If the height of the sun is not decisive for shading purposes, select Any height (default setting).
Enter angle: To exactly specify the hight numerically, change the number values "smaller **90°**" or "larger **0°**" with the adjacent arrow keys. The thickened part of the graphic shows you the selected area.

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

For as long as no time signal has been received and the time has not been entered manually (the display on the control unit will show "Please set clock!"), the shades will only be controlled based on light intensity, temperature and alarm reports. The position of the sun will not be taken into account.

Movem. Position

Press the button to set the movement position for the automatic mode. With the arrow keys, specify the movement position in % (0% = fully retracted, 100% = fully extended). Default setting: 75%.

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

Sensor Selection

Press the button to select the indoor sensor the control system will use for this awning (Pre-setting: first sensor in the list). As long as "**No Sensor**" is selected, the indoor temperature will not be taken into account by the control system for this shade.

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

Indoor Temp.

Press the button to set the indoor temperature block. Until an indoor sensor is selected, the indoor temperature block will not be active.

The interior blocking temperature enables the use of solar energy to warm the room. When the indoor temperature is below the set value, e.g. in the morning, the shading will remain retracted despite the sunshine.
As soon as the set indoor temperature is exceeded, the block is released and the shade is activated.

When the indoor temperature drops once again, the block is reactivated when the temperature drops below the pre-set value by more than 3.0°C (hysteresis). Note that the shade only retracts once the retraction delay time has elapsed.

☐ System > Automatic Settings > General Settings > Movement Delays
🕮 3.3. Adjust movement delays (shading)

Set temperature: With the arrow keys, adjust the value for the desired room temperature. Default setting: 25.0 °C.
Disable block: If the awning should be deployed to offer shade regardless of the indoor temperature, press the **Off** button.

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

Outdoor Temp.

Press the button to set the outdoor temperature block. The block only applies to automatic operation; no shading occurs based on light intensity or the position of the sun. Even when an outdoor blocking temperature is active, the drive will respond to wind and rain alarms, as well as manual movement commands.

Please note that the shade rails or other mechanical components can remain iced even when the outdoor temperature has already risen to a relatively high value.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Set temperature: If the awning should be blocked when the outdoor temperature is low, set the value recommended by the manufacturer using the arrow keys. Default

setting: 5.0 °C. The block is countermanded again when the temperature rises more than 2.0°C over the pre-set value (hysteresis).
Set the shade **behavior** in the next menu item.
Disable block: If the awning should be deployed to offer shade regardless of the outdoor temperature (for example with internal awnings), press the **Off** button.

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

Behavior

Set the way in which the shade should behave when the outdoor temperature block is triggered. The button is only active once an outdoor temperature has been set.

Retract: If the shade should retract when the outdoor temperature falls below the set value, select **Yes** (default setting). The shade is only retracted once the movement delay time has elapsed.
Remain in current position: If the shade should not move when the outdoor temperature falls below the set value, select **No**. When the rain or wind alarm is triggered, the shade will be retracted nonetheless (the alarm has priority over blocking temperature).

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

Frost Alarm

Press the button to active or deactivate the frost alarm for this shade. The frost alarm retracts the sun shade if the outdoor temperature is low and it is raining/snowing at the same time. This protects external shades from icing and from damage through movement when the rails are iced up.

The conditions for the triggering of the frost alarm (outdoor temperature, period) are defined in the menu „General Settings“.

☐ System > Automatic Settings > General Settings > Frost Alarm
🕮 Adjust frost alarm, page 62

When the frost alarm is triggered, manual operation of the shade is initially blocked. You can remove the block manually however. To do this select the appropriate shade in the Manual menu and press the frost alarm button. If the button is shown normally (black writing), the block has been removed. The block will then be first active for this drive again if it is reactivated maually or the next time the frost alarm is triggered. Please note that the shade rails or other mechanical components can remain iced even when the outdoor temperature has already risen to a relatively high value.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Activate: If the sun shade is to be retracted when there is a frost alarm, select **Yes**.
Deactivate: If the sun shade should offer shade regardless of the frost risk (e.g. for internal awnings), select **No** (default setting).

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

Wind Alarm

Press the button to set the wind alarm. The wind alarm protects the sensitive awning cloth from damage by retracting the awning.

Adjust values: Use the arrow keys to adjust the value for wind speed and the length of time by which it must have been exceeded.
Disable: If the awning should not react to the wind (e.g. internal awnings), select **Never retract** (default setting).

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

A wind alarm triggered for the drive will remain active for 5 minutes. Additionally, a wind delay can be set for shades. Then the automatic functions remain switched off for the defined period of time after the end of the wind alarm. Manual operation is however possible again.

☐ System > Automatic Settings > General Settings > Wind Delay
🕮 3.3. Setting a wind delay (shades)

Rain Alarm

Press the button to enable or disable the rain alarm. The rain alarm protects the sensitive awning cloth from damage by retracting the awning.

Enable: For moisture-sensitive external awnings, select **Yes** (awning should be retracted when it rains).
Disable: For internal awnings, select **No** (awning should not be retracted when it rains, default setting).

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

Automatik Reset

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the awning to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the awning's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.

Switching off: To switch off the awning's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
☐ System > Automatic Settings > General Settings > Automatic Reset
🕮 3.3. Define automatic reset

3.1.5. Automatic blind and roller shutter settings

For connected blinds and roller shutters (or groups of blinds/roller shutters) the following automatic settings can be changed:

- Light intensity
- Direction of sun
- Height of sun
- Movement position
- Slat position (only for blinds)
- Indoor sensor to be used for the blind/roller shutter
- Indoor temperature block
- Night closure
- Timed closure
- Outdoor temperature block
- Frost alarm
- Wind alarm
- Rain alarm
- Enable/Disable automatic reset

Alarm Functions

Alarm functions are used for shades in manual and in automatic mode.

During **frost, wind or rain alarm** the shades are retracted and cannot be manually extended.

Shade settings

The settings are only executed if a shade is in automatic mode and none of the aforementioned alarm functions is active.

The highest priority is given to the **outdoor temperature block**, followed by **timed closure** (extend), **night closure** (extend) and **indoor temperature-block** (retract).

Only when the direction and height of the sun agree and there is no active block is the **automatic shading by light** intensity engaged.

Setting of the automatic

The automatic blind functions can be accessed by pressing the buttons:

The automatic roller shutter functions can be accessed by pressing the buttons:

Now you can select individual blinds respectively roller shutters and adjust their settings. For each shade the following settings can be changed:

Press the button to set the brightness above which the blind respectively the roller shutter will be deployed to offer shade.

Adjust value: Use the arrow buttons to change the value according to your desire. Default setting: 40 kLux.

📖 7.2. Units for sun and wind

Keep closed: If the blind respectively the roller shutter should remain closed when there is brightness, select Always. The shading will then remain closed and will only be retracted when the rain or wind alarms trigger, if these functions have been activated. The slat (for blinds) and movement position can be adjusted individually. Manual opening is possible.

Leave open: If the blind respectively the roller shutter should not react to the brightness, select **Never**. The shading will then only be closed in the night closing and time closing periods set by you. Manual closing is possible.

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

For the automatic system to react, the set light intensity value must be exceeded or undercut for the duration of the delay times. This prevents constant up and down movement of the shading during rapidly changing light conditions. The movement delays can be adjusted.

▢ System > Automatic Settings > General Settings > Movement delays
📖 3.3. Adjust movement delays (shading elements)

Press the button to set the range (sun direction) in which the sun shall be, so that the blind/roller shutter provides shade.

All directions: If the sun's orientation is not decisive for shading purposes, select **All sides** (default setting).
Direction: If the shade should only be deployed when the sun is in a specific orientation, select as appropriate: **West, South-West, South, South-East** or **East**. The thickened part of the circle in the centre shows the selected area.
Enter angle: To set the range in which shading shall be provided in exact numbers, press the "from **0°**" or "to **360°**" and adjust the numeric values with the arrows keys that appear.

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

For as long as no time signal has been received and the time has not been entered manually (the display on the control unit will show "Please set clock!"), the shades will only be controlled based on light intensity, temperature and alarm reports. The position of the sun will not be taken into account.

Height of sun

Press the button to set the range (sun height) in which the sun shall be, so that the blind/roller shutter provides shade.

Any angle: If the height of the sun is not decisive for shading purposes, select Any height (default setting).
Enter angle: To exactly specify the height numerically, change the number values "smaller **90°**" or "larger **0°**" with the adjacent arrow keys. The thickened part of the graphic shows you the selected area.

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

For as long as no time signal has been received and the time has not been entered manually (the display on the control unit will show "Please set clock!"), the shades will only be controlled based on light intensity, temperature and alarm reports. The position of the sun will not be taken into account.

Movem. Position

Press the button to set the movement position for the automatic shading. With the arrow keys, specify the movement position in % (0% = fully retracted, 100% = fully extended). Default setting: 75%.

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

Slat position **Only for blinds!**

Press the button to set the angular position of the slats.

Fixed angle: If the slats should be opened at a fixed angle after reaching the movement position, leave the button position at No (do not follow the sun's height). With the ar-

row keys, specify the slat position in % (0% = closed, 50% = horizontal, 100% = closed). Default setting: 75% (slightly open).
Tracking the position of the sun: If the slats should be opened in accordance with the position of the sun, press the button so it changes to Yes. You can adjust the slat opening for the various angles of the sun. For this use the arrow keys next to the % details. Default setting: 0° to 15°: 100% (closed), 15° to 30°: 80%, 30° to 45°: 65%, 45° to 90°: 50% (horizontal).

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

Sensor Selection

Press the button to select the indoor sensor the control system will use for these blinds respectively shutters (Pre-setting: first sensor in the list). As long as "**No Sensor**" is selected, the indoor temperature will not be taken into account by the control system for this shade.

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

Indoor Temp.

Press the button to set the indoor temperature block. Until an indoor sensor is selected, the indoor temperature block will not be active.

The interior blocking temperature enables the use of solar energy to warm the room. When the indoor temperature is below the set value, e.g. in the morning, the shading will remain retracted despite the sunshine.
As soon as the set indoor temperature is exceeded, the block is released and the shade is activated.

When the indoor temperature drops once again, the block is reactivated when the temperature drops below the pre-set value by more than 3.0°C (hysteresis). Note that the shade only retracts once the retraction delay time has elapsed.

▢ System > Automatic Settings > General Settings > Movement Delays
🕮 3.3. Adjust movement delays (shading)

Set temperature: With the arrow keys, adjust the value for the desired room temperature. Default setting: 25.0 °C.
Disable block: If the blinds respectively shutters should be deployed to offer shade regardless of the indoor temperature, press the **Off** button.

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

Night Closure

Press the button to enable or disable the closing of the blind respectively the roller shutter at night.

Enable: If the blind respectively the roller shutter should be closed at night, select **Yes**.
Disable: If the blind respectively the roller shutter should remain open at night, select **No** (default setting).

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

The threshold value, above which twilight/night will be recognised, can be adjusted.
☐ System > Automatic Settings > General Settings > Twilight
🕮 3.3. Adjust twilight value

Note to night closing function and outdoor temperature block:

If the outdoor temperature is below the blocking temperature (see “Outdoor Temperature” settings), the blinds and roller shutters will close, but will not open automatically. If the blind/shutter fails to move up in the morning, please check if the hangings are not frozen or the rails iced. When the shading is free, you can move the hangings up by hand.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Timed closure

Press the button to set the closure time. Press Select to select the time during which the blind respectively the roller shutter will be closed. Activate one or more periods on the list. The periods can be individually customised (see below).

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

To change any of the time periods, press **Timer**.
🕮 Set timer, page 59

Note to timer closing function and outdoor temperature block:

If the outdoor temperature is below the blocking temperature (see "Outdoor Temperature" settings), the blinds and roller shutters will close, but not open automatically. If the blind/shutter fails to move up after the preset period, please check if the hangings are not frozen or the rails iced. When the shading is free, you can move the hangings up by hand.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Outdoor Temp.

Press the button to set the outdoor temperature block. The block only applies to automatic operation; no shading occurs based on light intensity or the position of the sun.

Even when an outdoor blocking temperature is active, the drive will respond to wind and rain alarms, as well as manual movement commands.

Please note that the shade rails or other mechanical components can remain iced even when the outdoor temperature has already risen to a relatively high value.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Set temperature: If the blind respectively the roller shutter should be blocked when the outdoor temperature is low, set the value recommended by the manufacturer using the arrow keys. Default setting: 5.0 °C. The block is countermanded again when the temperature rises more than 2.0°C over the pre- set value (hysteresis).
Set the shade **behavior** in the next menu item.
Disable block: If the blind respectively the roller shutter should be deployed to offer shade regardless of the outdoor temperature, press the **Off** button.

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

Behavior

Set the way in which the shade should behave when the outdoor temperature block is triggered. The button is only active once an outdoor temperature has been set.

Retract: If the shade should retract when the outdoor temperature falls below the set value, select **Yes** (default setting). The shade is only retracted once the movement delay time has elapsed.
Remain in current position: If the shade should not move when the outdoor temperature falls below the set value, select **No**. When the rain or wind alarm is triggered, the shade will be retracted nonetheless (the alarm has priority over blocking temperature).

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

Frost Alarm

Press the button to active or deactivate the frost alarm for this shade. The frost alarm retracts the sun shade if the outdoor temperature is low and it is raining/snowing at the same time. This protects external shades from icing and from damage through movement when the rails are iced up.

The conditions for the triggering of the frost alarm (outdoor temperature, period) are defined in the menu „General Settings“.

☐ System > Automatic Settings > General Settings > Frost Alarm
🕮 3.3. Adjust frost alarm

When the frost alarm is triggered, manual operation of the shade is initially blocked. You can remove the block manually however. To do this select the appropriate shade in the Manual menu and press the frost alarm button. If the button is shown normally

(black writing), the block has been removed. The block will then be first active for this drive again if it is reactivated maually or the next time the frost alarm is triggered. Please note that the shade rails or other mechanical components can remain iced even when the outdoor temperature has already risen to a relatively high value.

The drive and hangings may be damaged if a firmly frozen outdoor shading is moved!

Activate: If the sun shade is to be retracted when there is a frost alarm, select **Yes**.
Deactivate: If the sun shade should offer shade regardless of the frost risk, select **No** (default setting).

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

Wind Alarm

Press the button to set the wind alarm. The wind alarm protects the system from damage by retracting the blind respectively the roller shutter.

Adjust values: Use the arrow keys to adjust the value for wind speed and the length of time by which it must have been exceeded.
Disable: If the blind respectively the roller shutter should not react to the wind, select **Never retract** (default setting).

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

A wind alarm triggered for the drive will remain active for 5 minutes. Additionally, a wind delay can be set for shades. Then the automatic functions remain switched off for the defined period of time after the end of the wind alarm. Manual operation is however possible again.

☐ System > Automatic Settings > General Settings > Wind Delay
🕮 3.3. Setting a wind delay (shades)

Rain Alarm

Press the button to enable or disable the rain alarm. The rain alarm protects against moisture damage by retracting the blind respectively the roller shutter.

Enable: If the shading should be retracted when there is rain, select **Yes**.

Disable: If the shading respectively the roller shutter should remain closed when there is rain, select **No**. (default setting).

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

Automatic Reset

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the blind respectively the roller shutter to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the blind's/shutter's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the blinds's/ shutter's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
☐ System > Automatic Settings > General Settings > Automatic Reset
🕮 3.3. Define automatic reset

3.1.6. Automatic window settings

For connected windows, sliding roofs, step windows or window groups, the following automatic settings can be changed:

- Indoor sensor to be used for the window
- Indoor temperature
- Air humidity
- Supply air temperature
- Night-time re-cooling (together with indoor temperature and movement position for night-time re-cooling)
- Movement position (only for sliding windows)
- Number of steps (only for step windows)
- Timed ventilation
- Outdoor temperature
- Timed closure
- Frost alarm
- Wind alarm
- Rain alarm
- Gap ventilation
- Gap position
- Enable/Disable automatic reset

Alarm Functions

Alarm functions are used for windows in manual and in automatic mode.

During **frost, wind or rain alarm** all windows are closed and cannot be manually opened. Gap ventilation during a rain alarm is an exception; it only restricts the window's range of motion in automatic mode.

As soon as a connected **air conditioner is activated**, all windows are closed. They are then in automatic mode but can be immediately operated again. The delay time for the ventilation block engaged by an air conditioner can be adjusted.

☐ System > Automatic Settings > General Settings > Ventilation Block
🕮 3.3. Adjust ventilation block

Ventilation settings

The settings are only executed if a window is in automatic mode and none of the alarm functions named above is active.

Highest priority is assigned to **time closure**, followed by the **outdoor temperature-block** (keep closed), **timed ventilation** (open), the incoming **air temperature-block** (keep closed) and **night-time re-cooling** (open).

This means that e.g. timed ventilation or night-time re-cooling will only occur, when the outdoor temperature lies over the pre-set value for the outdoor temperature block.

The **automatic ventilation according to temperature** or relative humidity is only performed if no block is active.

Setting of the automatic

The automatic window functions can be accessed by pressing the buttons:

Now you can select individual windows and adjust their settings. For each window the following settings can be changed:

Press the button to select the indoor sensor the control system will use for this window (Pre-setting: first sensor in the list). As long as "**No Sensor**" is selected, the indoor temperature and air humidity will not be taken into account.

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

Press the button to set the indoor temperature above which the window will be opened. Until an indoor sensor is selected, the indoor temperature will be disregarded.

Setting the temperature: Adjust the value for the desired room temperature using the arrow buttons. Pre-setting: 25.0 °C.
The window is opened as soon as the temperature lies above the pre set value. It is closed again once the temperature sinks more than 2.0°C under the pre-set value (hysteresis).
Shutting off ventilation: If ventilation shall be independent of indoor temperature, press the button labelled **OFF**.

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

Air Humidity

Press the button to set the air humidity above which the window will be opened. Until an indoor sensor with humidity measurement is selected, the air humidity will be disregarded.

Setting air humidity: Adjust the value for the desired humidity using the arrow buttons. Pre-setting: 80%.
The window is opened as soon as the humidity lies above the pre- set value. However, it is only closed again when the humidity sinks by more than 3.0% under the pre-set value (hysteresis).
Shutting off ventilation: If ventilation is to be independent of the air humidity, press the button labelled **OFF**.

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

Supply-Air Temp.

Press the button to set the supply air temperature block (heat protection).

Enable: If the window should be closed when the air supply temperature is higher than the room temperature, select **Yes**.
The supply air temperature-block becomes active as soon as the incoming air temperature lies above the room temperature. The block is however only deactivated again when the incoming air temperature sinks below the room temperature by more than 3.0°C (hysteresis).
Disable: If the window should also then be/remain open when the supply air temperature is higher than the room temperature, select **No** (default setting).

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

Movem. Position **Only for sliding windows.**

Press the button to set the movement position for a sliding window in automatic mode. The window can also be fully opened by hand.

With the arrow keys, specify the movement position in % (0% = closed, 100% = fully open). Default setting: 75%.

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

Number of steps

Only for step windows.

Press the button to set the number of movement steps for a step window in automatic mode. With step windows the control unit checks every 3 minutes whether the set room temperature or air humidity has been exceeded and then moves up another step if necessary.

Specify the desired number of steps with the arrow keys. Default setting: 5.

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

Night-time cooling

Press the button to set the times for night-time re-cooling. The button is only activated once the general settings for night-time re-cooling have been configured.

▢ System > Automatic Settings > General Settings > Night-time Cooling
🕮 3.3. Set night-time re-cooling

Press **Select** to select the time during which the night-time re-cooling will operate. Activate one or more periods on the list.

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

To change any of the time periods, press **Timer**.
🕮 3.3. Set timer

Be careful that your settings for timed closure do not prevent night-time re-cooling operations!

NTC Indoor Temp.

Press the button to set the indoor temperature to the desired cooling level (for the night-time re-cooling). The button is only activated once a night-time re-cooling period has been set.

Use the arrow keys to change the value as required. Default setting: 16.0°C.

Confirm your setting by pressing **OK**.

NTC Movem. Pos.

Press the button to set the movement position for the night-time re-cooling. The button is only activated once a night-time re-cooling period has been set.

Input the movement position in % using the arrow keys (0% = closed, 100% = fully open). Default setting: 30%.

Confirm your setting by pressing **OK**.

Timed Ventilation

Press the button to set the ventilation running time. However the window will only open if the specified outdoor temperature is reached. At the end of a ventilation period, the normal automatic ventilation according to temperature and air humidity will be executed.

Press **Select** to select the time periods. Activate one or more periods on the list. The periods can be individually customised (see below).

Confirm your setting by pressing **OK.**

To change any of the time periods, press Timer.
🕮 3.3. Set timer

Movement Limitation

Press the button to activate or deactivate the movement range limitation for this window at low outdoor temperatures.

The conditions for the triggering of the movement limitation (outdoor temperature, period) are defined in the "General Settings" menu.
▢ System > Automatic Setttings > General Settings > Movement Limitation
🕮 3.3. Set movement limitations (windows)

Confirm your setting by pressing **OK.**

to Position

Press the button to set the movement position when movement limitation is active. The button will only be activated once the movement limitation has been activated.

Input the maximum movement position in % using the arrow buttons (0% = closed, 100% = fully open). Default: 50%.
The window can be reopened fully by hand.

Confirm your setting using the OK button.

Confirm your setting by pressing **OK.**

Outdoor Temp.

Press the button to set the outdoor temperature block. The effect of the block is that the window remains in the current position. The outdoor temperature block can, for example, be used if the window should not be used for ventilation in winter (cold protection for plants).

The outdoor temperature block only applies for automatic operation; no ventilation then takes place. When the rain or wind alarm is triggered, the window will be closed despite the outdoor temperature block (the alarm has priority over temperature block).

Manual operation continues to remain possible, even when the window is blocked because of low outdoor temperatures.

Set value: Use the arrow buttons to change the value according to your wish. Default setting: 5.0°C
The outdoor temperature-block becomes active as soon as the temperature sinks under the pre- set value. The block is however only deactivated again when the temperature rises over the pre-set value by more than 2.0°C (hysteresis).
Disable block: If the window should be controlled independently of the outdoor temperature, press the button **Off**.

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

Timed closure

Press the button to set the closure time. Closure periods prevent the windows, for example, from opening and closing at night, and thus causing noise. Note that no nighttime re-cooling is possible during the set closure periods.

Press **Select** to select the time during which the window should be closed. Activate one or more periods on the list. The periods can be individually customised (see below).

Confirm your setting by pressing **OK**.

To change any of the time periods, press **Timer**.
📖 3.3. Set timer

Frost Alarm

Press the button to activate or deactivate the frost alarm for this window. The frost alarm closes the window if the outdoor temperature is low and it is raining/snowing at the same time. This prevents damage from ice (e.g. at the seal).

The conditions for the triggering of the frost alarm (outdoor temperature, period) are defined in the menu „General Settings“.

🖵 System > Automatic Settings > General Settings > Frost Alarm
📖 3.3. Adjust frost alarm

When the frost alarm is triggered, manual operation of the window is initially blocked. You can remove the block manually however. To do this select the appropriate window in the Manual menu and press the frost alarm button. If the button is shown normally (black writing), the block has been removed. The block will then be first active for this drive again when it is reactivated manually or the next time the frost alarm is triggered.

Activate: If the window is to be closed when there is a frost alarm, select **Yes**.

Deactivate: If ventilation is to take place via the window regardless of the frost risk, select **No** (default setting).

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

Wind Alarm

Press the button to set the wind alarm. The wind alarm protects the unit and equipment from damage by closing the window. The wind alarm will also close manually opened windows.

Adjust values: Use the arrow keys to adjust the value for wind speed and the length of time by which it must have been exceeded.
Disable: If the window should not react to the wind, select **Never close** (default setting).

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

A wind alarm triggered for the drive will be maintained for 5 minutes. If during these 5 minutes the saved value is exceeded again, the holding time begins again.

Rain Alarm

Press the button to enable or disable the rain alarm. The rain alarm protects against moisture damage by closing the window. The rain alarm will also close manually opened windows.

Enable: If the window should be closed when there is rain, select **Yes.**
Disable: If the window should remain open when there is rain, select **No** (default setting).

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

When precipitation begins, depending on the amount of rain and the temperature, some time may pass before the precipitation is recognised by the weather station. The operating time taken to close the window must also be included in this calculation. Moisture-sensitive objects should therefore not be placed within the area of the automatic window.

Gap Ventilation

Press the button to enable or disable gap opening when a rain alarm triggers. The function is only active if the rain alarm is switched on. With gap opening, the window can be opened a little despite a rain alarm.

Enable: If gap opening should be active when it rains, select **Yes**.

Disable: If the window should be completely closed when there is rain, select **No** (default setting).

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

Please note that gap ventilation is not possible if the MSG Control has been activated (signal duration set to permanent) in the basic settings of the window in the installation menue.

📖 6.1. Set up drives and drive groups

Gap Position

Press the button to set the movement position for the opening when a rain alarm triggers. The function is only active if the gap ventilation is switched on.

With the arrow keys, specify the movement position in % (0% = closed, 100% = fully open). Default setting: 5%.

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

Automatic Reset

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the window to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the window's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the window's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.

▢ System > Automatic Settings > General Settings > Automatic Reset
📖 3.3. Define automatic reset

3.1.7. Automatic ventilation settings

For connected roof ventilation units and supply air units the following automatic settings can be changed:

- Indoor sensor to be used for the ventilation unit
- Indoor temperature

- Air humidity
- Air supply temperature (only for air supply devices)
- Exhaust air levels (only for roof ventilators WL610/WL305)
- Night-time re-cooling (together with indoor temperature for night-time re-cooling)
- Timed ventilation (and levels for timed ventilation)
- Outdoor temperature (only for air supply devices)
- Recirculating air for heat recovery (only roof ventilators WL610/WL305)
- Recirculating air for condensation reduction (only for roof ventilators WL610/WL305)
- Temperature for heating (only for fresh air/heating-combos on RF-VM)
- Enable/Disable automatic reset

As soon as a connected air conditioner is activated, ventilation is disabled, including manually activated fans. The fans can be manually operated again immediately. The delay time for the ventilation block can be adjusted.

☐ System > Automatic Settings > General Settings > Ventilation Block
🕮 3.3. Adjust ventilation block

The automatic ventilation functions can be accessed by pressing the buttons:

Now you can select individual ventilators and adjust their settings. For each ventilator the following settings can be changed:

For all ventilation units.

Press the button to select the indoor sensor the control system will use for this ventilator (Pre-setting: first sensor in the list). As long as "**No Sensor**" is selected, the indoor temperature and air humidity will not be taken into account by the control system for this ventilator.

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

For all ventilation units.

Press the button to set the indoor temperature above which the ventilation will be switched on at night. Until an indoor sensor is selected, the indoor temperature will be disregarded.

Setting the temperature: Adjust the value for the desired room temperature using the arrow buttons. Pre-setting: 21.0 °C.

Roof Ventilator WS305/610, ventilation units at RF-VM module: The ventilator is switched step by step, depending on the difference to the target temperature.

Air Supply Unit WFL, ventioaltor at multifunctional output or RF Relay: The ventilation unit is opened as soon as the temperature exceeds the set value. It is closed again as soon as the temerature drops more than 2.0°C below the set value (hysteresis).

Shutting off ventilation: If ventilation is to be independent of indoor temperature, press the button labelled **OFF**.

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

Air Humidity → Humidity Ventil.

For all ventilation units.

Press the button to set the air humidity above which the ventilation will be switched on at night. Until an indoor sensor is selected, the air humidity will be disregarded.

Setting humidity: Adjust the value for the desired humidity using the arrow buttons. Pre-setting: 80%.
Shutting off ventilation: If ventilation is to be independent of air humidity, press the button labelled **OFF**.

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

Supply-Air Temp.

Only for WFL and ventilation units at RF Relay.

Press the button to set the supply air temperature block (summer operation). With WFL supply air units, the supply air temperature is recorded by a thermometer integrated into the WFL. With devices from other manufacturers the outdoor temperature at the weather station is used as the supply air temperature.

Enable: If the supply air unit should be closed when the supply air temperature is warmer than the room temperature, select **Yes**.
Disable: If the supply air unit should also then be/remain open when the supply air temperature is warmer than the room temperature, select **No** (default setting).

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

Exhaus Air Levels → Ventilation Levels

Only for WL610/WL305 and air supply on RF-VM.

Press the button to set the ventilation levels of the motorised roof ventilators. The further the indoor temperature and air humidity lie above the reference values, the higher the ventilator shifts.

Use the arrow buttons to change the start and maximum values according to your wishes. Default setting: Start with level 1, maximum level 8 (full level utilisation).

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

Night-time Cooling

Not on fresh air/heating-combos on RF-VM.

Press the button to set the times for night-time re-cooling. The button is only activated once the general settings for night-time re-cooling have been configured.

▢ System > Automatic Settings > General Settings > Night-time Cooling
🕮 3.3. Set night-time re-cooling (ventilation)

Press **Select** to select the time during which the night-time re-cooling will operate. Activate one or more periods on the list.

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

To change any of the time periods, press **Timer**.
🕮 3.3. Set timer

Be careful that your settings for timed closure do not prevent night-time re-cooling operations! A set supply air temperature block can also prevent night-time re-cooling.

NTC Indoor Temp.

Press the button to set the indoor temperature to the desired cooling level (for the night-time re-cooling). The button is only activated once a night-time re-cooling period has been set.

Use the arrow keys to change the value as required. Default setting: 16.0°C.

Confirm your setting by pressing **OK.**

NTC Exhaust Level

Only for exhaust air units.

Press the button to set the ventilation levels of the motorised roof ventilators for the night-time re-cooling. The button is only activated once a night-time re-cooling period has been set.

Use the arrow buttons to change the level according to your desire. Default setting: Level 3.

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

Timed Ventilation

For all ventilation units.

Press the button to set the timed ventilation. Press Select to select the time during which ventilation will occur. However supply air flaps are only opened if the set outdoor temperature is hit.

Activate one or more periods on the list. Confirm your setting by pressing **OK**.

To change any of the time periods, press **Timer**.
Set timer, page 59

Ventilation Level

Only for WL610/305.

Press the button to set the ventilation levels of the motorised roof ventilators for the timed ventilation. The button is only active if a ventilation time has been set.

Use the arrow buttons to change the level according to your desire. Default setting: Level 3.

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

Outdoor Temp

Only for WFL and ventilation units at RF Relay.

Press the button to set the outdoor temperature above which the supply air unit should remain closed (winter operation). Use the arrow buttons to change the value according to your wish. Default setting: 1.0 °C.

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

Heat Recovery

Only for roof ventilators WL610 and WL305.

Press the button to set the recirculating air function for heat recovery. Recirculation allows heated air from the first area to be distributed in the entire room and so be used for warming if required. In principle, the recirculation function only starts if the temperature at the ventilator is at least 3° warmer than the indoor temperature.

Select Yes to activate the heat recovery function (with No, the function is switched off). Use the arrow keys that appear to set the indoor temperature beneath which circulation should take place, and the level at which the ventilator should run.

Default setting: Indoor temperature 10.0°C lower; with level 3.

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

Condensation

Only for roof ventilators WL610 and WL305.

Press the button to set the recirculating air function for condensation reduction. Recirculation of the air can reduce condensation forming on the window panes.

Select **Yes** to activate the condensation reduction function (with No, the function is switched off). Using the arrow keys that appear, set the U-value of the glass used (ask your window manufacturer or conservatory supplier for the value) and the level at which the ventilator should run. Default setting: U-value 1.0; with Level 3.

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

Temp. Heating

Only for fresh air/heating-combos on RF-VM.

Press the button to set the indoor temperature above which the circulating air heating will be switched on during the day. Until an indoor sensor is selected, the automatic heating is deactivated. Use the arrow buttons to change the value according to your wish. Default setting: 16.0 °C.

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

Night mode

Only for fresh air/heating-combos on RF-VM.

Press the button to set the night-time operation for the circulating air heating. Press **Select** to select the time during which the night mode will operate. Activate one or more periods on the list. The periods can be individually customised (see below).

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

To change any of the time periods, press **Timer**.
📖 3.3. Set timer

Indoor Temp. Night

Press the button to set the indoor temperature above which the heating will be switched on at night. The button is only active if a night mode operation period has been set. Use the arrow buttons to change the value according to your wish. Default setting: 9.0°C

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

Automatic Reset

For all ventilation units.

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the ventilation unit to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the ventilation unit's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the ventilation unit's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.

☐ System > Automatic Settings > General Settings > Automatic Reset

🕮 3.3. Define automatic reset

3.1.8. Automatic heating settings

For connected heatings the following automatic settings can be changed:

- Indoor sensor to be used for the heating
- Indoor day temperature
- Night mode (period) and indoor night temperature
- Enable/Disable automatic reset

The automatic heating functions can be accessed by pressing the buttons:

Now you can select individual heatings and adjust their settings. For each heating the following settings can be changed:

Press the button to select the indoor sensor the control system will use for this heating (Pre-setting: first sensor in the list). For as long as "**No sensor**" is selected, the indoor sensor will not be taken into account for control of the heating, i.e. no automatic control will take place.

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

Press the button to set the indoor temperature above which the heating will be switched on during the day. Until an indoor sensor is selected, the automatic heating is deactivated. Use the arrow buttons to change the value according to your wish. Default setting: 20.0 °C.

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

The heating will engage as soon as the temperature drops below the set value and is shut down again when the temperature is more than 0.5°C above the set value (hysteresis).

Night mode

Press the button to set the night-time operation. Press **Select** to select the time during which the night mode will operate. Activate one or more periods on the list. The periods can be individually customised (see below).

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

To change any of the time periods, press **Timer**.
📖 3.3 Set timer

Indoor Temp. Night

Press the button to set the indoor temperature above which the heating will be switched on at night. The button is only active if a night mode operation period has been set. Use the arrow buttons to change the value according to your wish. Default setting: 16.0°C

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

The heating will engage as soon as the temperature drops below the set value and is shut down again when the temperature is more than 0.5°C above the set value (hysteresis).

Automatic Reset

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the heating to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the heating's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the heating's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
▢ System > Automatic Settings > General Settings > Automatic Reset
📖 3.3. Define automatic reset

3.1.9. Automatic air-conditioner settings

For connected coolings/air conditioners the following automatic settings can be changed:

- Indoor sensor to be used for the air-conditioner
- Indoor day temperature
- Night mode (period) and indoor night temperature
- Enable/Disable automatic reset

As soon as a cooling/air-conditioning unit is activated, windows will be closed and ventilators switched off. The delay time applicable to this can be set.

☐ System > Automatic Settings > General Settings > Ventilation Block
🕮 3.3. Adjust ventilation block

The automatic climate control functions can be accessed by pressing the buttons:

Now you can select individual air conditioners and adjust their settings. For each air conditioner the following settings can be changed:

Press the button to select the indoor sensor the control system will use for this cooling unit (Pre-setting: first sensor in the list). For as long as "**No sensor**" is selected, the indoor sensor will not be taken into account for control of the cooling unit, i.e. no automatic control will take place.

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

Press the button to set the indoor temperature above which the cooling unit will be switched on during the day. Until an indoor sensor is selected, the automatic cooling is deactivated. Use the arrow buttons to change the value according to your wish. Default setting: 30.0°C

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

The cooling will engage as soon as the temperature exceeds the set value and is shut down again when the temperature is more than 2°C below the set value (hysteresis).

Night mode

Press the button to set the night-time operation. Press Select to select the time during which the night mode will operate. Activate one or more periods on the list. The periods can be individually customised (see below).

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

To change any of the time periods, press **Timer**.
📖 3.3. Set timer

Indoor Temp. Night

Press the button to set the indoor temperature above which the cooling will be switched on at night. The button is only active if a night mode operation period has been set. Use the arrow buttons to change the value according to your wish. Default setting: 34.0°C.

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

The cooling will engage as soon as the temperature exceeds the set value and is shut down again when the temperature is more than 2°C below the set value (hysteresis).

Automatic Reset

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the air conditioner to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the air conditioner's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the air conditioner's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
▢ System > Automatic Settings > General Settings > Automatic Reset
📖 3.3. Define automatic reset

3.1.10.Automatic light settings

For connected lights the following automatic settings can be changed:

- Time switches
- Twilight operation
- Enable/Disable automatic reset

The automatic lighting functions can be accessed by pressing the buttons:

Now you can select individual lights and adjust their settings. For each light the following settings can be changed:

Press the button to set the time switch. Press **Select** to select the time during which the lights will be turned on. As soon as you activate the twilight setting (see below), the light will only be turned on at twilight in the selected time periods. Activate one or more periods on the list.

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

To change any of the time periods, press **Timer**.
📖 3.3. Set timer

Press the button to enable or disable the twilight/night switch. If the twilight setting is active, the light is only turned on at twilight in the time periods selected above. Presetting: No (twilight switching off).

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

The threshold value, above which twilight/night will be recognised, can be adjusted.
▢ System > Automatic Settings > Twilight
📖 3.3. Adjust twilight value

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the light to Automatic at a set point in time, select **Yes** (this is the default setting).

Switching off: To switch off the light's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the light's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
☐ System > Automatic Settings > General Settings > Automatic Reset
🕮 3.3. Define automatic reset

3.1.11.Automatic roof gutter heating settings

For connected roof gutter heatings the following automatic settings can be changed:

- Temperature range within which the heating will be switched on
- Enable/Disable automatic reset

The automatic gutter heating functions can be accessed by pressing the buttons:

Now you can select individual roof gutter heatings and adjust their settings. For each heating the following settings can be changed:

Use the arrow keys to set the temperature range within which the roof gutter heating will be switched on. If the temperatures are very cold, no condensate forms and the heating can remain switched off. Default setting: 5.0°C to -5.0°C.

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

Press the button to enable or disable the switchover to automatic mode at a set point in time, or following a manual intervention.

The general Automatic Reset occurs daily at the same time.

Switching on: To set the gutter heating to Automatic at a set point in time, select **Yes** (this is the default setting).
Switching off: To switch off the gutter heating's Reset function, select **No**.

Alternatively, the automatic function can be reactivated at a set time following a manual intervention.

Switching on: To perform an Automatic Reset after a manual intervention, select **Yes**.
Switching off: To switch off the gutter heating's Reset function, select **No** (this is the default setting).

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

Automatic Reset time and/or period can be set.
☐ System > Automatic Settings > General Settings > Automatic Reset
🕮 3.3. Define automatic reset

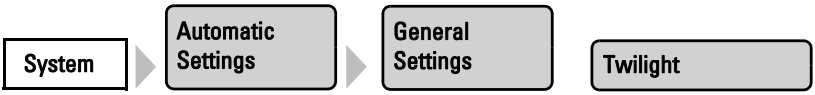
3.2. Adjust general automatic settings

The settings applied here are used for all drives and devices, or are applicable to the drive types defined in the relevant chapter (e.g. for all shades).

3.2.1. Adjust twilight value

You can adjust the threshold value above which twilight/night will be recognised. Note that on moonlit nights, brightness values short below 10 lux can be achieved. If the twilight value is set below 10 lux, shades which are set to "close at night" will remain open because of the moonlight or retract during the night.

The twilight settings can be accessed by pressing the buttons:



Use the arrow keys to set the value above which twilight or night will be recognised by the control unit. Default setting: 10 Lux.

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

3.2.2. Adjust movement delays (shading elements)

You can adjust the delay time for shades. The movement delay prevents sun shades from being constantly extended and retracted when there are rapidly changing light conditions.

For the shade to extend, the brightness must lie above the set light intensity value uninterruptedly for the set extension delay time (e.g. 1 minute). For the shade to retract again, the light intensity for the set retraction delay time must lie below the value without interruption for the set retraction delay time (e.g. 12 minutes). Clever selection of the delay time "masks out" passing clouds and nonetheless permits the shade to react quickly to the sun.

The movement delay settings can be accessed by pressing the buttons:

System ▸ Automatic Settings ▸ General Settings ▸ Movement Delays

Use the arrow keys to set the values for the extension and retraction delays.

Default setting: Extension 1 minute, retraction 12 minutes.

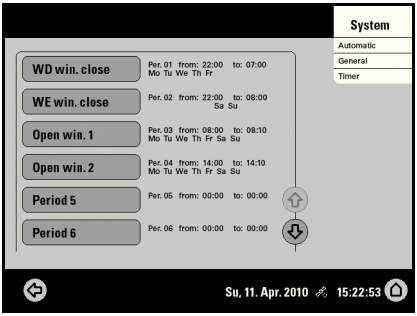
Confirm your setting with the **OK** button.

3.2.3. Set timer

Sixteen periods can be set in the week-long timer, which can be used for different automation functions. A start and end point, as well as a day of the week must be set for each time period.

The timer settings can be accessed by pressing the buttons:

System ▸ Automatic Settings ▸ General Settings ▸ Timer



In the illustration, the times for mandatory closing and opening the windows on weekdays and weekends have already been set.

Select the time period that you want to change. The following settings of each time period can be changed:

Name of the time period:

Period 1

Press the button to change this name. Input the desired name on the on-screen keyboard which appears.

📖 2.4. Input keyboard for names and codes

Start / end:

Set the start and end of the time period by selecting each hour and minute field consecutively and setting the time using the arrow keys.

Weekdays:

Select the day of the week on which the time period should be activated. More than one day can also be selected.

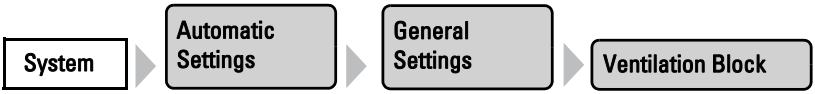
Confirm your setting with the **OK** button.

3.2.4. Adjust ventilation block

As soon as a cooling/air-conditioning unit is activated, windows will be closed and ventilators switched off. If the cooling is switched off again, the ventilation will stay off for a while, to prevent the cooled air to be discharged immidiately through windows or ventilation units. You can adjust the delay time for this.

The ventilation block is also iniciated by devices that are connected to the multifunction input as climate signallers.

The ventilation block settings can be accessed by pressing the buttons:



Use the arrow keys to set how many minutes ventilation via windows or ventilators should remain blocked after an air-conditioning device is switched off.

Default setting: 120 minutes.

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

3.2.5. Set night-time re-cooling (ventilation)

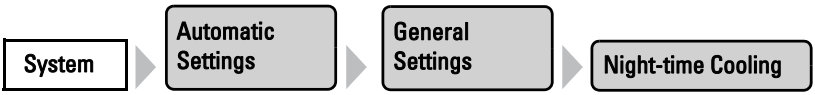
The night-time re-cooling function using the windows and ventilation equipment is activated once a set outdoor temperature is exceeded for an extended period of time.

The weather data display (Start screen) then shows “Night-time re-cooling” next to the outdoor temperature value. The display can also show “Frost alarm” and “Window movement limitation” in turn.

📖 2.1. Weather data display (start screen)

The window(s) and ventilator(s) which are used for night-time re-cooling as well as the time period over which these are activated can be set in the automatic operation functions for the individual windows and ventilators.

The night-time re-cooling settings can be accessed by pressing the buttons:



Using the arrow keys, set the outdoor temperature at which the night-time re-cooling shall be active (e. g. higher than 20°C). Remember that the night-time re-cooling only starts when the outdoor temperature is more than 2.0°C above the pre-set value. The night-time re-cooling is de-activated again as soon as the outdoor temperature drops below the pre-set value.

Also set the period for which the outdoor temperature must have been above the minimum temperature (e. g. longer than 48 hours).

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

Night-time re-cooling will stop when the set outdoor temperature is undercut by 2°C for a specified period of time. This period depends on the set trigger period and on how long this temperature has been exceeded. It is a maximum of one third of the set trigger period (e.g. max. 12 hours for a 48-hour trigger period).

3.2.6. Adjust frost alarm

The frost alarm for shades and windows will be active when during or after precipitation the outdoor temperature falls below a defined level.

The weather data display (Start screen) then shows “Frost alarm” next to the outdoor temperature value. The display can also show “Night-time re-cooling” and “Window movement limitation” in turn.

🕮 2.1. Weather data display (start screen)

You adjust which shades will be retracted and which windows will be closed in the automatic functions for the individual shades and windows.

The following situations trigger the frost alarm:

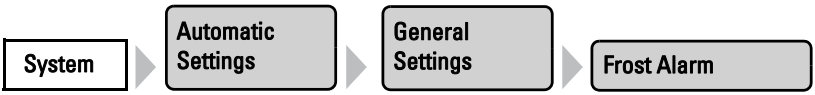
- The outdoor temperature is below the set frost alarm temperature and ist starts to rain/snow.
- The outdoor temperature falls below the set frost alarm temperature while it is raining/snowing.
- Rain/snow has stopped. The outdoor temperature falls belowing the set frost alarm temperature within the set standby period after the end of precipitation.

The following situation stops the frost alarm:

- The outdoor temperature stays above the set unfreezing temperature for the set time period.

Setting of the frost alarm:

You can reach the frost alarm settings by pressing the buttons:



First set when the frost alarm should be triggered. Use the arrow keys to adjust the outdoor temperature that must be undercut to trigger the frost alarm (e.g. 2.0°C).
Then set how many hours after precipitation the standby for the frost alarm should be active (e.g. 5 hrs). Choose the standby period so that all humidity of the previous precipitation has dried.

Then set the conditions for the end of the frost alarm. Set the outdoor temperature to be exceeded (e.g. 5.0°C) and the duration for which it should be exceeded (e.g. 5 hrs). Choose the time period so that ice is completely melted thereafter.

The **Off** button lets you deactivate the frost alarm for all shades and windows.

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

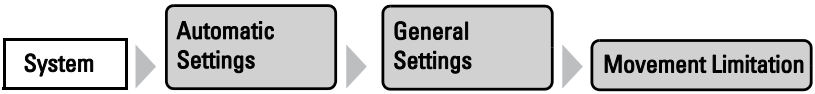
3.2.7. Set movement limitations (window)

A movement limitation ensures that a window remains only open a portion at low outdoor temperatures. This prevents the room from cooling too rapidly.

The weather data display (Start screen) then shows “Window movement limitation” next to the outdoor temperature value. The display can also show “Night-time re-cooling” and “Frost alarm” in turn.
📖 2.1. Weather data display (start screen)

You can set the degree to which the opening is restricted for individual windows in the automatic functions.

You can reach the movement limitation settings by pressing the buttons:



First define the outdoor temperature below which the window movement range becomes limited (e.g. 2.0°C).

You can then set how long the outdoor temperature must remain above the set limit value, so that the movement limitation is cancelled again (e.g. 8 hours).

The **Off** button lets you deactivate the movement limitation for all windows.

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

3.2.8. Setting a wind delay (shades)

When the wind limitation value is exceeded for a drive, the wind alarm is then triggered for 5 minutes. If the wind value is once again exceeded within this period, the 5-minute stop time restarts from scratch.
For shades, a delay time can also be set following the wind alarm, during which the shade automation is blocked. This means that if the shade is in automatic mode before a wind alarm, the automatic setting remains switched off after the wind alarm. Further manual operation is however possible again.

You can reach the wind delay time settings by pressing the buttons:

Set the duration of the shade block after a wind alarm using the arrow keys (0-360 minutes, default setting: 0 minutes).

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

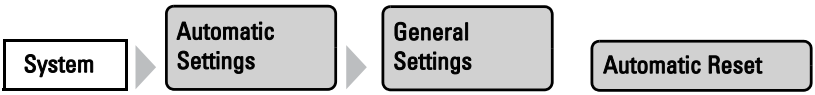
3.2.9. Define automatic reset

Following a manual intervention, the affected drive or unit remains in manual mode, and automatic operations are switched off. Once the general Automatic Function time point is reached, drives and units are once again set to Automatic. Alternatively, the automatic function can be set to reactivate following a manual intervention. The period for this can be set.

The Automatic Reset prevents drives from being manually operated and then stay in an unfavourable position (leaving windows accidentally open, or blinds retracted despite the sunlight).

The general Automatic Reset and reset following a manual intervention can be separately activated and de-activated in the Automatic functions menu for each drive group and each unit.

The Automatic Reset function settings can be accessed by pressing the buttons:



General Automatic Reset

Set the time point by selecting the hour and accordingly the minute fields and setting the time using the arrow buttons. Default setting: 3:00 AM.

Automatic reset following a manual intervention

Use the arrow keys to set the time interval after which Automatic functions should be once again activated.Default setting: 60 minutes.

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

4. Installation

4.1. Procedure

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

To install the control unit, proceed as follows:
1. Installation
2. Commissioning
3. Basic settings in The ETS and the menu **System > Installation** (with selection of the location in the **System > WS1 / WS1000 Settings** menu).
4. Automatic settings in the menu **System > Automatic Settings**.

This chapter describes the installation. Read through the notes and instructions for the individual components carefully. First of all fit all components and connect the cables to the control unit, drives and devices. Then check all components and continue with the commissioning.

4.1.1. Installation notes

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

DANGER!
Risk to life from live voltage (mains voltage)!
There are unprotected live components within the device.
•VDE regulations and national regulations are to be followed.
•Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
•Do not use the device if it is damaged.
•Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled 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.

4.1.2. Notes on wireless equipment

When planning facilities with devices that communicate via radio, adequate radio reception must be guaranteed. The range of wireless control will be limited by legal regulation and structural circumstances. Avoid sources of interference and obstacles between receiver and transmitter, that could disturb the wireless communication. Those would be for example:

- Walls and ceilings (especially concrete and solar protection glazing).
- Metal surfaces next to the wireless participants (e. g. aluminium construction of a conservatory).
- Other wireless devices and powerful local transmitters (e.g. wireless headphones), which transmit on the same frequency (868,2 MHz). Please maintain a minimum distance of 30 cm between wireless transmitters for that reason.

The transmission performance and reception sensitivity can be improved by means of an external antenna. During installation, a conduit should be placed beneath the recessed housing, in which the external antenna can be mounted.

4.1.3. Safety notice for automatic and alarm functions

WARNING!
Risk of injury due to automatically moved components!
The automatic control may cause parts of the system to travel and pose a danger to humans.
• No persons may remain in the travelling range of parts driven by an electric motor.
• Adhere to the relevant building regulations (see guideline for power-operated windows, doors and gates BGR 232 et al).
• Always disconnect the system from the mains power before maintenance or cleaning (e.g. switch off/remove fuse).

Precipitation warning for automatically controlled windows:

Some time can pass before falling rain is recognised by the sensors in the system, depending on the rain amount and outdoor temperature. Furthermore, a closure time must be calculated for electrically-actuated windows or sliding roofs. Humiditysensitive items should therefore not be placed in an area where they might be damaged by incoming precipitation. Please also bear in mind that in the event of a power failure and rainfall, a window will not be automatically closed if no emergency generator is installed.

Running rails of shades icing up:

Note that the rails of shutters, awnings and blind which are externally mounted can ice up. Operating the drive under such conditions can damage the shades and drives.

Power failure, maintenance works, etc. (restart of control)

If a power outage occurs, the control unit can no longer control the connected drives! If the functional scope must be guaranteed even during a power cut, an emergency power unit with a corresponding switch from network power to emergency operation should be installed by the customer.

Settings saved in the control unit programme will be maintained even during a power outage.

Note: After every re-start (e. g. return of voltage after mains failure or manual reset) all drives and devices with active automatic reset are in automatic mode.

If cleaning or maintenance work is to be carried out in the conservatory/building, the control unit should be de-energised and secure against restart by disconnection of the customer-installed fuse. This ensures that the connected drives cannot start.

4.2. Installation of the control unit

4.2.1. Installation of the display unit

Warning, mains voltage! National legal regulations are to be observed. Installation, inspection, commissioning and troubleshooting of the device must only be carried out by a competent electrician.

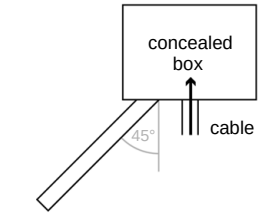
Preparing the installation location

The device must only be installed and used in dry, interior spaces. Avoid condensation.

Cut-out dimensions for concealed box:
W=248 mm +1 -0 | H = 165 mm +1 -0 | D = 84 mm:

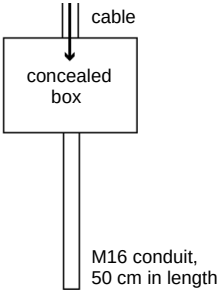
An external antenna can be connected in order to improve wireless communications. During installation, a **conduit 50 cm in length** should be placed beneath the recessed housing, in which the external antenna can be mounted (antenna dimensions approx. 565 x 8 x 5, L × W × H in mm):

Conduit angled diagonally downwards (for cable access from above or below)



M16 conduit, 50 cm in length

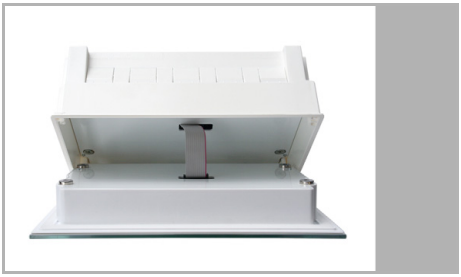
Conduit angled vertically downwards (only for cable access from above!)



Preparing for installation

The display unit is held by magnets. Remove the front part from the concealed box.

Caution: The display is connected with a flat-ribbon cable to the circuit board in the concealed box.

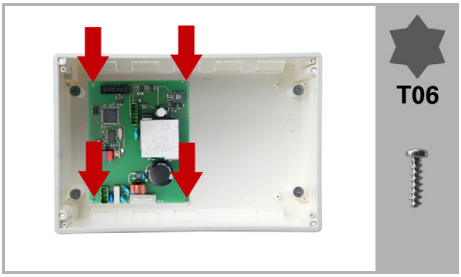


Loosen the plug so that the display unit can be removed.

Remove all parts of the transportation lock/packing.

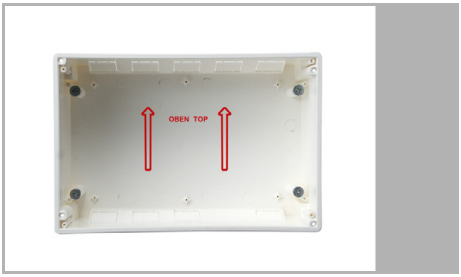
T06

The security covering in the concealed box is attached with four screws: Loosen the screws and take off the security covering.



T06

Remove the circuit board from the concealed box to be installed a keep it in a place where it is protected from dirt. **It may never be exposed to dust or moisture!**



Place the concealed box in the wall so that the arrows point upwards.

Wall-fitting

For fitting, screw the cover (board) on to the concealed box with the enclosed screws.

Cavity wall fitting

Clamp the concealed box to the wall with the four enclosed screws.

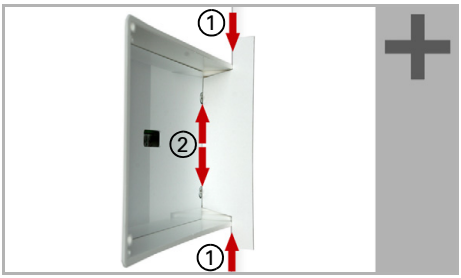
Upon delivery, the pouch containing the assembly screws can be found in the control unit's concealed box.

Assembling the control unit with concealed box

During electrical installation, please introduce all connection cables into the concealed box through the lower or upper side wall. In the process, keep the individual connection wires short to prevent long reserve loops.

After connecting the cables screw the security covering onto the concealed box.

The security covering must be fixed before the control is put into operation! It prevents contact with current-carrying parts in the concealed box.



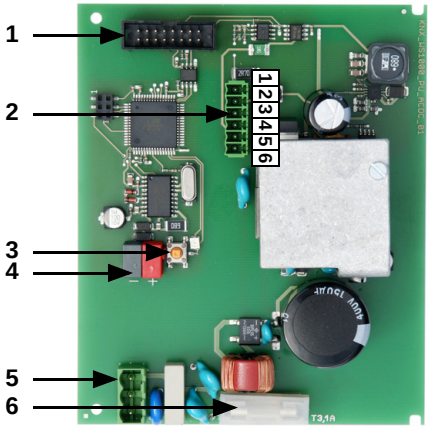
Adjust the screws of the magnetic mounting with the enclosed template. Each of the four screws must be adjusted individually in height.

When the edge of the template rests on the wall surface (1), the template must rest on the mounting screws as well (2).

By adjusting the mounting screws, the display unit will rest flat on the wall later and be held by the magnets safely.

Connect the flat ribbon cable to the display and place the display unit on the concealed box. The magnets must be attracted by the mounting screws considerably and the display unit must rest tightly on the concealed box.

Structure of the connector board



1 *Connector for flat-ribbon cable to front board*
2 *Weather station: terminal 1 (GND) and 2 (+). Supply voltage (e. g. indoor sensor or camera): terminal 3 (12 V) and 4 (0 V) or 5 (12 V) and 6 (0 V), max. 400 mA altogether*
3 *Programming button KNX*
4 *KNX bus plug +/-*
5 *Mains connection L/N/PE 230 V / 50 Hz*
6 *Microfuse T630 mA*

4.2.2. Connect drives and devices

Drives and devices that should be controlled by the **KNX WS1000 Style** are connected via KNX or radio (Elsner RF Relay, RF-MSG) to the control system.

Connect drives and devices to the control via KNX

🕮 8. Basic setting in the ETS

Connecting drives and devices wirelessly

Connecting drives and devices wirelessly is achieved by means of an Elsner wireless modules (RF relay, RR-MSG). Elsner Elektronik ventilation devices can be learned into the control system without any additional equipment. Please observe the installation instructions relating to the wireless relays, motor control devices and ventilation devices.

🕮6.1. Wireless connections

Planning of drive groups

Each drive and each device that must be controlled individually requires a group of its own (e. g. shades with different orientations to east, south, west). It is not possible to individually control drives that are connected in a group.

Take special care to blinds in front of doors or awnings in front of windows. Combination rules for two drives like „only open window when awning retracted“ are not possible.

When motors are connected in parallel at RF-MSGs, take note of whether a group control relay is prescribed by the manufacturer. Group control relays can be obtained from Elsner Elektronik or the motor manufacturer. Only drives with the same function (only windows, only awnings, only blinds, only shutters) can be brought together in groups.

If motors are connected in parallel which are unsuitable for this purpose, both they and the control unit will be damaged.

For D.C. drives we offer appropriate power supply units. In case of need we ask for details of the motor type, the manufacturer and – if available – the technical data.

Tips on connecting windows

With windows the supply of fresh air can be very well regulated using the Step window configuration. In this, the control unit checks the room temperature every 3 minutes. If the temperature is close to the reference value, the window will be opened or closed step by step. You can adjust the number of steps in the Automation menu ("Number of steps" button).

For sliding roofs, during normal operation of ventilators, it is not necessary to use the full stroke. For that reason you can adjust the size of the opening in the Automatic menu ("Movement position" button). If the sliding roof should be opened fully, this can take place manually.

ATTENTION
Material damage due to use of step/sliding roof operation with inappropriate window motors!
Not all window motors are suitable for step/sliding mode.
•Use this functions only with motors that are qualified for step/sliding operation by the manufacturer.

5. Commissioning

5.1. 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 ETS and in the menu **System > Installation**
- Automatic settings in the menu System > Automatic Settings

This chapter describes the **commissioning** of the device. Prior to commissioning all components must be installed (fitted and with their cables connected). Read through the notes and instructions carefully.

5.1.1. Start control unit

ICondensation water can occur if a device is taken from a cold into a warm room. Before the commissioning of the control take care that there is no humidity inside the device (let dry if necessary).

After installation, connecting cables to the unit and checking all connections, switch the power supply on.

The control unit starts and in the display the model and serial number appear initially. Then the following will be shown

- “Read drive parameter OK“
  (or if there is an error: “Error initialising drive parameter with factory settings.”)
- “Wireless interface”
  (or if there is an error: “Wireless interface error”)
- “Wireless channel initialised OK“
  (or if there is an error: “Wireless channel initialisation error”)

After successfully running through the initial test sequence, the control unit will be in the starting position with a display of weather data. Weather data is displayed if the control system is receiving data (brightness, sun direction and height, precipitation, wind, temperature, and indoor room data). The weather animation is only shown when there no error messages are displayed.

The time is automatically displayed when the unit receives time /date information, otherwise, the time can be set manually. Also a time zone (if there is a GPS weather station on the control system) and location (if there is tme reception via the bus) must be set.

- ▢ System > WS1000 Settings > Settings > Time and Date
- 🕮 6.2.Enter time and date manually
- ▢ System > WS1000 Settings > Settings > Time Zone
- 🕮 6.2. Select time zone
- ▢ System > WS1000 Settings > Settings > Location
- 🕮 6.2. Enter location

6. Basic Setting WS1000

6.1. Procedure

After the professional installation and commissioning, the basic settings have to be made in the ETS (chapter 8) and then in the control menu **System > Installation** (this chapter).

🕮 8. Basic setzings in the ETS

6.2. The “Installation” menu

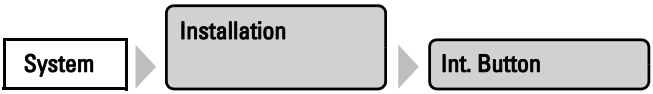
In the menu area **System > Installation** you can adjust the following settings:

- Set KNX communication (KNX Settings)
- Create group buttons (Internal Buttons)
- Set up wireless connections to devices (Radio Connections)
- Select sensor for weather data display (Weather Display)
- Set camera (only if a camera interface is installed)
- Define the order in which the drives and devices will be shown, e. g. in the manual menu (Channel Order)

6.2.1. Assign internal buttons (group buttons)

Several drives or devices can be operated at the same time in the Manual menu via a collective group button (internal software button). Ten internal buttons are available.

The internal group button settings can be accessed by pressing the buttons:



You can now select individual buttons from the list and adjust their settings. So long as no settings have been completed yet, the buttons will show (**Int. Button 1**), (**Int. Button 2**) etc. If a button was already configured, the name or function will appear instead.

Press the key of the button to be set. For each internal button the following settings can be changed:

Button type

Press the **Reserve** button. A selection menu appears. Select **Int. Button** or leave “Reserve” if the button is not being used for the moment.

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

Name

Press the button to change the name. Enter the desired name via the keypad that appears.

2.4. Input keyboard for names and codes

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

Drive groups

Press the button to assign the internal buttons to drive groups or devices. All connected drives and devices appear. You can select several buttons. Confirm your selection with the **OK** button.

Only drives/devices with the same functions should be operated together with a single button (e.g. only blinds or only windows).

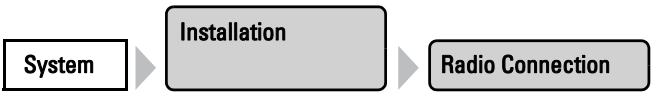
6.2.2. Wireless connections

Devices that communicate wirelessly with the control unit must first be learned by the control unit.

When learning wireless connections, always comply with the data sheet of the relevant wireless device. The instructions for learning WGTH-UP indoor sensors can be found in the Chapter *Setting up a wireless connection using WGTH-UP*.

WARNING!
Electric voltage!
Some devices have programming keys for learning the radio connection inside their housings. and thus beneath unprotected live parts.
•This devices should only be learned by a trained electrician (according to VDE).

This menu allows you to learn, control and delete radio connections. Press the buttons:



Learn wireless connection

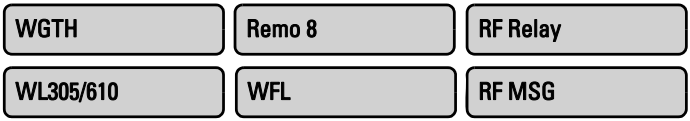
Press **Learn** to bring the control unit into learning readiness mode. Then follow the instructions for the respective wireless participant (press PROG key or switch power supply on).

For wireless components that are learned by switching on power, you can switch on the supply for all devices at the same time. The components learn themselves one after the other automatically. For wireless components that are learned by pressing the PRG button, please repeat the learning procedure with all of them.

As soon as the wireless connection has been established, the control unit reports "Device successfully learnt" and beeps. Press ← to go back to the menu.

Status

Press **Status** to see which connections already exist.



You can now select, monitor and adjust the settings for the individual wireless participants. If no adjustments have been made, the names of the wireless components are the same as the names of the devices. Later the names given are shown on the buttons.

Different operational data will be shown for the devices:

WGTH-UP an WG AQS/TH indoor sensor

Radio module type	"WGTH" display
Name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 📖 2.4. Input keyboard for names and codes
Radio status	Radio status display
WGTH status	Display of serial number and version

Measured values	Display of current values. To adjust the sensor, press the **Adjust** button. Adjust the value for "Displayed temperature/humidity". A correction of measured values may be needed when the temperature/air humidity on the sensor does not correspond to the room average (e.g. when the sensor has been installed in a place with above-average temperatures) Confirm your entry using the **OK** key.
Settings	Press the **Manual Menu** button to set if the indoor sensor shall be displayed in the manual menu. Confirm your choice using the **OK** key.

WGT temperature sensor:

Radio module type	“WGT“ display
Name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display
WGT status	Display of serial number and version
Measured values	Display of current value. To adjust the sensor, press the **Adjust** button. Adjust the value for "Displayed temperature". Confirm your entry using the **OK** key.
Settings	Press the **Manual Menu** button to set if the indoor sensor shall be displayed in the manual menu. Confirm your choice using the **OK** key.

Remote control Remo 8

Radio module type	“Remo 8“ display
Radio module name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Serial number	Display of serial number
Drive groups	Press the **Allocate** button to allocate drives and devices to the manual sender channels. Select channel for the manual sender (channels 1 to 8). Select the drives and/or devices to be controlled by the channel. Confirm your entry using the **OK** key.
ATTENTION! Only drives/units with the same function should be controlled together using a single transmitter channel (e. g. blinds or windows alone).	

WL400, WL800, WL610, WL305 roof vent

Radio module type	“WL305/610/400/800“ display
Radio module name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display
WL305/610 status	Display of serial number, period, flap movements, version
Measured values	Display of current temperature change on vent. To adjust the sensor, press the **Adjust** button. Adjust the value for "Displayed temperature". Confirm your entry using the **OK** key.
Settings	Press the **Manual Menu** button to set if the vent shall be displayed in the manual menu. Confirm your choice using the **OK** key.

WFL air supply device

Radio module type	“WFL“ display
Radio module name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display
WFL status	Display of Serial number, flap movements, version
Measured values	Display of current temperature change on vent. To adjust the sensor, press the **Adjust** button. Adjust the value for "Displayed temperature". Confirm your entry using the **OK** key.
Settings	Press the **Manual Menu** button to set if the vent shall be displayed in the manual menu. Confirm your choice using the **OK** key.

RF-VM ventilation module:

Radio module type	“RF-VM“ display
Type of automatic	Presss the button in order to set the function of the device attached to the ventilation module. Select **Supply/Exh. Air** or **Fresh Air/Heating** and confirm with the **OK** button. The automatic menus will be updated to match.

Name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display
RF-VM status	Display of Serial number and version
Settings	Press the **Manual Menu** button to set if the vent shall be displayed in the manual menu. Confirm your choice using the **OK** key.

RF relay

Radio module type	"RF-Relais" display
Type of automatic	To set what shall be connected to the RF relay, press the button. Select the type of automatic regime (heating, cooling, alarm, light, roof gutter heating, supply air, dimmer or none). If "Dimmer" or "None" is selected, the device can be switched on and off only by hand, there are no automatic regime menus. Confirm your entry using the **OK** key.
Radio module name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display
RF relay status	Display of Serial number and version
Settings	Press the **Manual Menu** button to set if the device shall be displayed in the manual menu. Confirm your choice using the **OK** key.

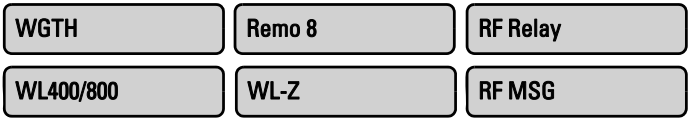
RF-MSG motor control devices

Radio module type	"RF-MSG" display
Type of automatic	To set what shall be connected to the RF-MSG relay, press the button. Select type of automatic regime (awning, window, sky roof, blinds). Confirm your entry using the **OK** key.
Radio module name	To change the name, press the button showing device identification. Enter the required name in the box which appears. Confirm your entry using the **OK** key. 🕮 2.4. Input keyboard for names and codes
Radio status	Radio status display

RF-MSG status	Display of Serial number, version and RF-Router if applicable
Other settings	Basic settings of drive, seting of movement times, MSG control. 📖 6.1. Set up drives and drive groups, page 94 (MSG control and zero position movement time/dead time can be set as of RF-MSG version 3.4)

Delete wireless connection

Press **Delete** if you want to delete the connection to a wireless participant. All wireless participants available are shown:



Select the wireless participant to be deleted. Confirm the question "Really delete wireless connection to member XX?" with **Yes.** The wireless connection is deleted.

6.2.3. Indoor sensor for weather display

In the weather data display, the values from a sensor (e.g. internal sensor of WS1 Color or wireless sensor WGTH-UP) can be displays. Wireless sensors have to be taught in to the control first.

Select the desired sensor here. Press the buttons:

Press the button to reach the selection menu with the sensors. Then press the button of the desired sensor and confirm using the **OK** button.

6.2.4. Settings for communication with KNX

To set up the data exchange with the KNX system, please use the ETS software.

📖 8. Basic setting in the ETS

The KNX actuators and sensors provided for communication with the WS1000 are displayed in the **KNX Settings** menu and can be adjusted. Press the buttons:

A list of all KNX actuators and sensors set up for communication with the control system (ETS) will be displayed. Press the button of the actuator or sensor that you wish to set.

Different operational data and setting options will be displayed for the devices:

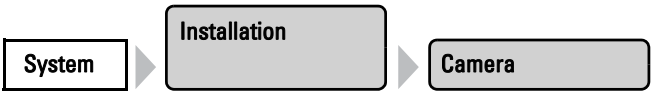
Function	Display of the block with number and type of input or output
Name	Press the button with the device's designation in order to change the name. Enter the desired name via the keypad that appears. Confirm your selection using **OK**. 📖 2.4. Input keyboard for names and codes
Status of KNX Block *(only for inputs)*	Display of communication status
Correction factor *(for 2/4 byte floating point inputs only)*	Press the button in order to enter the correction factor for the value received by the bus. Enter the factor via the keypad that appears. Confirm your selection using **OK**.
Measuring unit *(for 2/4 byte floating point inputs only)*	Press the button in order to input the measuring unit. Enter the desired name via the keypad that appears. Confirm your selection using **OK.** 📖 2.4. Input keyboard for names and code
Settings *(varies depending on type of input/output)*	Press **Manual Direction** in order to adjust the assignment of the arrow keys (up/down, on/off). A selection menu appears. Select whether the drive shall **retract** (or open) or **extend** (or close) when the button is pushed. Confirm your selection using **OK**. Press **Manual Menu** in order to set whether the drive/ sensor shall be displayed in the manual menu or not. Confirm your selection using **OK.**

The KNX drives and devices appear in the menu for **Automatic Setting**.

6.2.5. Setting Camera Inputs

This menu point only appears if the control is equipped with a camera interface!

In order to set up camera interface and inputs, press the buttons:



Camera 1/2

If you want to set both camera inputs, press the button with the name of the camera. In the pre-settings, the cameras are called "Camera 1" and "Camera 2". You can change the names in this menu.

You can perform the following settings on each camera:

Test pattern	Press **Show Picture**, in order to show the current camera picture. If no camera is connected, nothing will be displayed. Confirm your entry by pressing **OK**.
Using the camera	Press the button in order to activate or deactivate this camera. Select **Yes** or **No**. Confirm your entry by pressing **OK**.
Name	Press the button with the device's designation (pre setting: camera 1/2), in order to change the name. Enter the desired name using the key pad that appears. Confirm your selection using **OK**. 📖 2.4. Input keyboard for names and codes
Camera off after ... *(sec.)*	Press the button with the numeric value in order to set how long the camera's picture shall be displayed on the weather data screen. After the pre-set time has expired, the picture fades out. Enter the desired time (seconds) using the keypad that appears. Confirm your entry by pressing **OK**.
Multif. Input	Press the button **Assign**, in order to assign the camera to a multifunction-input. The camera then comes on automatically as soon as signal is picked up at this input (e. g. motion detector). Several inputs can also be selected. Confirm your entry by pressing **OK**.

Interface

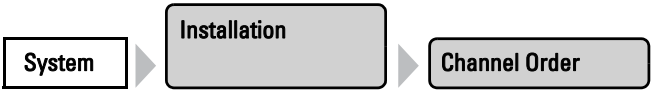
Press the button if you want to de-activate the camera interface. This is only necessary if the interface fails or is removed when the control system is running and an error message is displayed ("Camera interface defect"). By de-activating the interface the error message is suppressed and the weather animation will be displayed normally again.

De-activating: If the camera interface is to be turned off, select **Yes**.

Confirm your setting by pressing **OK**.

6.2.6. Define channel order

This is where you define the order in which the drives and devices are shown in the menues. Press the buttons:



Here all configured drives and devices ("channels") are displayed. Note that the list also includes those channels that do not appear in the manual menu. The display in the manual menu can be activated or de-activated in the base settings for every single channel.

📖 6.1. Set up drives and drive groups

Press the button of the channels to be changed and shift them with the arrow keys that appear on the right.

Confirm the new sequence with the **OK** button.

6.3. WS1000 Settings

In the menu area **System > WS1000 Settings** you can adjust the following settings:

- Change personal data such as time/date and location and adjust the screen display to your personal preferences (Settings)
- Restart, reset to factory defaults and change internal settings of the control (Service)
- Set an access code to protect the "Installation" and "Automatic Settings" menus from unauthorised changes
- Storing the set-up data for the control system on the SD card or reading the data from the SD card

6.3.1. Settings

In the menu area **System > WS1000 Settings > Settings** you can adjust the following settings:

- Time and date
- Language
- Display
- Time zone
- Location
- Calibrate touch

Enter time and date manually

Time and date are normally received via the bus or by the weather station connected directly. Time normally will be shown within around 10 minutes of starting up the system (weather data display, on the lower right).

If no time signal is available, "Please set clock!" will show permanently in the display. While this is being displayed, no weather animations can be shown. In this case, you should set the clock by hand.

The time settings can be accessed by pressing the buttons:

Set the time and date by pressing the hour, minute, second, day, month and year fields after one another and setting the current values.
Confirm your setting with the **OK** button.

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.

The **automatic brightness adjustment** adjusts the display screen to the light conditions in the room (the darker the room, the darker the display screen lighting). Touching the display screen increases the brightness by 30% in order to ensure excellent legibility. If no further operation is performed within one minute, the screen brightness is reduced once again. This automatic darkening saves energy.

If the automatic function is off, the screen brightness can be set in percent. For this press the **% value**. Using the arrow keys that appear you can adjust the value. Default setting: On.

Using the **automatic switch-off**, you can determine whether the display lighting should be switched off. Press the button **Off / When ambience dim / On** until the desired setting is visible. Pre-set: Off.

If the automatic switcht-off is set to **On**, the display lighting will be turned off if no command is given for 5 minutes. If the screen is touched, it re-activates.

If the automatic switch-off is set to **When ambience dim**, then the display lighting will switch off if the room is dark. If the room is lit, the display lighting will automatically re-activate. If the screen is touched, it also re-activates. If no command is given for around 1 minute, the automatic switch-off darkens the screen again.

Confirm your setting with the **OK** 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.

Examples for UTC difference:

Country	UTC difference
Belgium	+01:00
Germany	+01:00
France	+01:00
United Kingdom	+01:00
Ireland	+01:00
Italy	+01:00
Croatia	+01:00
Luxembourg	+01:00
Netherlands	+01:00
Norway	+01:00
Austria	+01:00
Poland	+01:00
Portugal	+01:00

Country	UTC difference
Sweden	+01:00
Switzerland	+01:00
Spain	+01:00

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.

Enter location

The location must be specified if the control receives weather data via the bus.

The information about the building's location is required for correct details of the sun's position. If the location data is not correct, the shades will not be properly controlled.

The location settings can be accessed by pressing the buttons:

In the menu that appears, you can enter the location as a **city** or as **coordinates** (longitude and latitude).

Select **City** to make a selection under Country and City from a list using the buttons.

Select **Coordinates** to specify the location numerically. Press the minute and second fields after one another for eastern longitude and northern latitude and set the values with the arrow keys that appear.

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

Calibrate touch

If, when operating the touch display, you are forced to press "next to the button", please perform a calibration here. Press the buttons:

The touch display is then calibrated. The process last few seconds. In the meantime please do not touch the screen.

6.3.2. Service settings

In the menu area **System > WS1000 Settings > Service** you can adjust the following settings:

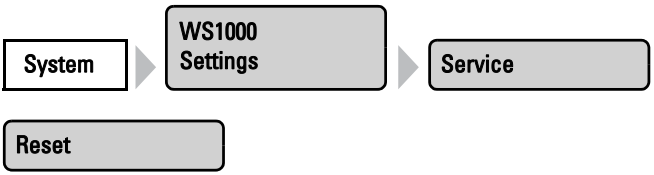
- Reset (new start)
- Factory settings
- Internal area

In normal operation of the control unit, the service settings are not used. Damage may arise through inappropriate use!

Reset (new start)

Reset restarts the control system's software. In the process, the automatic settings will be maintained. After starting up, all drives and devices will be in automatic mode.

The Reset function can be accessed by pressing the buttons:

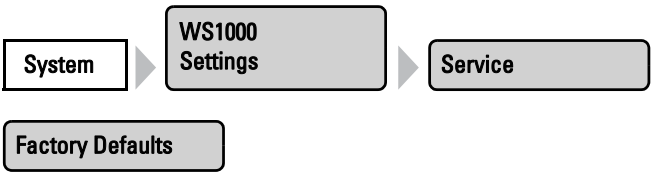


Press **Reset** and the control system restarts.

Factory settings

By resetting to the factory defaults all basic and automatic settings will be deleted. The control unit will once again be in the condition it was when delivered.

The Factory settings can be accessed by pressing the buttons:



Select **Factory Defaults.** Enter the code "81" via the keypad which appears and confirm with the **OK** button. The factory settings will be loaded and the control system restarted.

Internal area

In the internal area, basic data of the device can be modified. You are not authorised to change this.

6.3.3. Access code

In the **System > WS1000 Settings > Access code** menu area you can set an access code which locks the "Installation" and "Automatic Settings" menus against unauthorised changes. Manual operation of the control system remains possible at any time.

The access code settings can be accessed by pressing the buttons:

Here you can enter, change and delete a code.

Press the button to set a new code. Enter the desired access code via the keyboard that appears. The code will be shown in plain form.

📖 2.4. Input keyboard for names and codes

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

The control system will now ask for this code before the menus are shown.

Press the button to change an existing code. First of all enter the existing access code via the keyboard that appears. The code will be shown in plain form.

📖 2.4. Input keyboard for names and codes

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

Now enter the new access code via the keyboard.

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

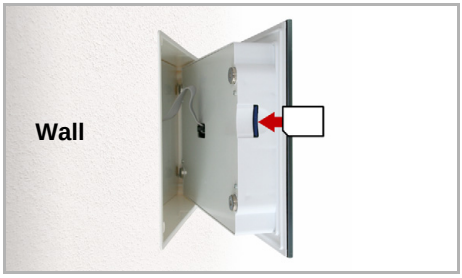
The control system will now ask for this code before the menus are shown.

Press the button to delete an existing code, e.g. if you have forgotten the combination or do not want it to be locked any more. Enter the active code or the unlocking code "123" via the keyboard that appears.

Confirm with the OK button. The control system shows “Access code deleted”. Press ← to go back to the menu. The control system no longer has an access code.

6.3.4. Using an SD card

The **KNX WS1000 Style** has an SD card slot, which can be used to show the images on the display and to store or transfer the set-up data to the control system.



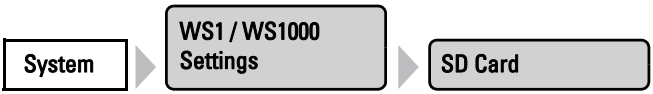
The SD card slot can be found on the inner face of the housing.

The display is held on the wall by magnets. It is connected to the power electronics in the concealed box with a cable. Lift the display unit to the front without breaking the cable connection.

The card is automatically recognised and the symbol „SD card“ appears in the bottom right-hand corner of the display. Once the image data have been saved onto the card, the symbol for "play-back" immediately appears in the weather data display. From here you can start the slideshow directly.

To remove the card, briefly push down on the card. The card pops up slightly out of the slot and can then be removed.

The SD card menu can be accessed by pressing the buttons:



Show images on display

The **KNX WS1000 Style** can display digitally-stored image data as a slideshow or as individual images. 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)

Slideshow

Press the button to start the slideshow. The images are displayed in the same sequence as they were saved onto the card (see note below). 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).

Image

Press the button if you wish to show an individual image on the display. All images saved on the card will be displayed. Select the desired picture.

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).

Note: The sequence of the catalogue of individual images and of the slideshow corresponds to the sequence in which the images were saved onto the card. The images are not sorted according to name.

Saving and loading configuration data

The SD card can be used as a storage and transfer medium for set-up data to:

- Save personal settings
- Store summer and winter configurations on two SD cards

[Name]

The buton is empty or shows the already entered name of the current configuration. Press the button to enter a name for the current control configuration before saving. The name of the configuration is displayed in this menu and when starting up the control.
Enter the desired name using the key pad that appears (max. 7 characters). Confirm and save by pressing the **OK** button.

📖 2.4. Input keyboard for names and codes

Load Config.

Press the button to transfer the settings data from the SD card to the control system. All configuration data stored in the card's root directory will be displayed. Select the desired file. The data will be uploaded and the control system restarted.

Save Config.

Press the button to save the control system settings data onto the SD card. Enter the desired file name using the keyboard that appears (max. 7 characters). Choosing a name similar to the configuration will help you to load the correct configuration later. Confirm by pressing the **OK** button to save the information.

📖 2.4. Input keyboard for names and codes

7. Tables, maintenance

7.1. Care and maintenance

Maintenance of the control unit

Finger marks on the touch screen are best removed with a damp cloth or a microfiber cloth. You can wipe the buttons without activating them.
Do not use abrasives / detergents or aggressive cleaners for cleaning.

If there is a power outage, the data you have entered will be saved for around 10 years. No battery is required for this. Once power is restored, the clock must be set again. If there is time signal reception this takes place automatically.

7.2. Technical specifications

Housing	Glass, plastic
Colours	• White/grey • Dark grey/black, refelctive coating
Mounting	Flush/cavity wall
Dimensions	Display front approx. 1270× 185 (W × H, mm), mounting depth approx. 9 mm, concealed box approx. 254 × 171 × 85 (W × H × D, mm)
Ambient temperature	Operation 0…+45°C, Storage -30…+70°C, avoid bedewing
Operating voltage	230 V AC, 50 Hz
Power consumption	Stand-by max. 17 W
Frequency wireless channels	868.2 MHz

The product conforms with the provisions of EU directives.

7.2.1. Units for sun and wind

The display of sun intensity is in lux or kilolux and is shortened in the display to lx or klx. The value 1 is reached even with overcast skies, 20 klx if the sun has just come out again and 100 klx is reached when there are cloudless skies at noon. Experience indicates that extending shades above 40 klx is to be recommended.

The display of wind speed is in meters per second and is shortened in the display to m/s. Depending on the position of the building and the installation position of the weather station, different values may be optimal in order to protect the shade or window. Observe the response of the awning or blinds or the window to wind and then correct the wind value accordingly.

The following table should make it easier to find the optimal values for your situation:

Description	m/s	km/h	Beaufort	Knots
Calm	< 0,3	< 1	0	< 1
Light air	0,3-1,5	1-5	1	1-3
Light breeze	1,6-3,3	6-11	2	4-6
Gentle breeze	3,4-5,4	12-19	3	7-10
Moderate breeze	5,5-7,9	20-28	4	11-16
Fresh breeze	8,0-10,7	29-38	5	17-21
Strong breeze	10,8-13,8	39-49	6	22-27
Moderate gale	13,9-17,1	50-61	7	28-33
Fresh gale	17,2-20,7	62-74	8	34-40
Strong gale	20,8-24,4	75-88	9	41-47
Whole gale	24,5-28,4	89-102	10	48-55
Storm	28,5-32,6	103-117	11	56-63
Hurricane	> 32,6	> 117	12	> 63

7.3. Alarm and error messages

7.3.1. Weather data display messages

Various alarm and error messages can appear in the weather data display. In this case no weather animation will be shown.

Please set clock!

is shown when the control system is first started or after a restart. As soon as a time signal is received, this message disappears. If no reception is available, please set the clock by hand.

☐ System > WS1 / WS1000 settings > Settings > Time and Date
🕮 6.2. Enter time and date manually

Connection to weather station failed!

means that the control system is receiving no data from the weather station. Check the connection lead to the weather station and examine it if necessary. **Manual** operation of drives and devices without rain or wind alarm is still possible. Drives with selected rain or wind alarm move to the safe position.

RF868 wireless module faulty!

means that the internal wireless module is not working properly. Contact customer service to have the control unit checked.

KNX interface faulty!

(only for WS1000 Color with KNX interface)

Indicates an error or defect in the KNX interface. There is no communication with the bus. If the ETS is set to allow weather data to be received from the bus, a wind or rain alarm is triggered on the control system. Get in touch with customer support to check the interface.

Camera interface faulty!

(only when a camera interface is installed)
Indicates an error or defect in the camera interface. Get in touch with customer support to check the interface.

Configuration memory faulty!

means that the memory for the automatic settings is not working properly. Contact customer service to have the control unit checked.

7.3.2. “Manual” menu messages

The manual menu displays the status of the drives, devices and sensors as well as any error messages (e. g. on/off, exhaust speed, slat position, etc.).

No response! Or Sensor fault

as a status message from a wireless device
(e. g. wireless fan, drive to RF-MSG or WGTH-UP wireless sensor)

The control system receives no further information from the wireless receiver. Check the status of the wireless connection under **System > Installation > Wireless connection > Status**. If the wireless system has a problem, this displays “Wireless status: Receiver timeout”. Have the affected device checked.

Fault!

as a status message from a KNX bus device

Indicates an error or fault in the KNX interface. There is no communication with the bus. If the ETS is set to allow weather data to be received from the bus, a wind or rain alarm is triggered on the control system. Get in touch with customer support to check the interface.

No measurement value received or Position unknown

as a status message from a wireless/KNX sensor or a KNX actuator

The control system has not yet received any data from a configured sensor (wireless or KNX) or KNX actuator. Once data is received, the message disappears.

7.4. Personal automatic settings data

Awnings, blinds, shutters

Drive no. (output)							
Name							
Function							
Light intensity (kLUx)							
Direction of sun							
Height of sun							
Movement position							
Slat position							
Slat position for height of the sun of	0°-15°						
	15°-30°						
	30°-45°						
	45°-90°						
Indoor sensor							
Indoor temperature (°C)							
Night closure?							
Timed closure (period)							
Outdoor temperature (°C)							
Wind alarm at (m/s), Time exceeded							
Rain alarm?							
Automatic reset?							
Reset following manual intervention?							

Extension delay (min)	
Retraction delay (min)	
Twilight value (lux)	

Window

Drive no. (output)						
Name						
Normal, sliding window or step window?						
Indoor sensor						
Indoor temperature (°C)						
Air humidity (%)						
Supply air temperature block						
Night-time re-cooling (period, temp., position)						
Movement position/number of steps						
Timed ventilation (period)						
Outdoor temperature (°C)						
Timed closure (period)						
Wind alarm at (m/s), Time exceeded						
Rain alarm?						
Gap opening during rain? Position						
Automatic reset?						
Reset following manual intervention?						

Ventilation, heating and cooling units

No. (output)						
Name						
Indoor sensor						
Air humidity (%)						
Indoor Temperature (°C)						
Outdoor Temperature (°C)						
Supply air temperature block						
Exhaust air levels						

No. (output)						
Name						
Night-time re-cooling ventil. (period, temperature)						
Timed ventil. /Night mode (period, temperature)						
Heat recovery recirculation (temperature, step)						
Condensation air recirculation (level)						
Automatic reset?						
Reset following manual intervention?						

Ventilation block via air-conditioning (min)	

Roof gutter heating

No. output						
Name						
Temperature range (°C) from						
Temperature range (°C) to						
Automatic reset?						
Reset following manual intervention?						

Light

No. (output)						
Name						
Twilight operation						
Time switch (period)						
On at alarm?						
Automatic reset?						
Reset following manual intervention?						

General settings

Time point for general automatic reset	
Reset following manual intervention (min)	

Timer time periods

	Name	from	to
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

8. Basic Setting in the ETS

8.1. Procedure

After the professional installation and commissioning, the basic settings have to be made in the ETS and then in the control menu **System > Installation**.

After the programming in the ETS, the control must be reset (also when making changes).

📖 6.3.2. Service-Einstellungen, Reset
▢ System > WS1000 einstellen > Service > Reset

8.2. KNX transmission protocol

Abbreviations

Flags:
C: Communication
R: Read
W: Write
T: Transfer
AU: Update

8.2.1. List of all communications objects

No.	Name	Function	DPT	Flags
0	Software version	Output	217,001	C R T
1	Date	Input / Output	11,001	C W T
2	Time	Input / Output	10,001	C W T
3	Date and time request	Input	1,017	C S
4	Location Breitengrad	Output	14,007	C R T
5	Location Laengengrad	Output	14,007	C R T
6	Sun elevation Azimuth	Output	14,007	C R T
7	Sun position Elevation	Output	14,007	C R T
8	Sun elevation Azimuth	Output	9.*	C R T
9	Sun position Elevation	Output	9.*	C R T
10	Switching output night	Output	1,002	C R T
11	Switching output rain	Input / Output	1,002	C R W T
12	Outdoor temperature measurement value	Input / Output	9,001	C R W T
13	Wind force measurement value	Input / Output	9,005	C R W T
14	Wind force sensor 1 measurement value	Input	9.005	C W
15	Wind force sensor 2 measurement value	Input	9.005	C W

No.	Name	Function	DPT	Flags
16	Wind force sensor 3 measurement value	Input	9.005	C W
17	Wind force sensor 4 measurement value	Input	14.007	C R W T
18	Wind direction 2 Byte	Input	9.*	C W
19	Winddirection 4 Byte	Input	14.007	C W
20	Brightness measurement value	Input / Output	9,004	C R W T
21	Reserve			
22	WS1000 defect	Output	1,002	C R T
23	Wind sensor defect	Output	1,002	C R T
24	Temperature sensor defect	Output	1,002	C R T
25	Weather station defect	Output	1,002	C R T
26	Block	Input	1,002	C S
27	Wind sensor 1 defect	Output	1.002	C R T
28	Wind sensor 2 defect	Output	1.002	C R T
29	Wind sensor 3 defect	Output	1.002	C R T
30	Wind sensor 4 defect	Output	1.002	C R T
31	Wind direction defect	Output	1.002	C R T
32	Reserve			
33	Block 7_1: Long-time	Input / Output	1,008	C W T
34	Block 7_1: Short-time	Input / Output	1,01	C W T
35	Block 7_1: Actuation position	Output	5,001	C T
36	Block 7_1: Slat position	Output	5,001	C T
37	Block 7_1: Movement position feedback	Input	5,001	C W T
38	Block 7_1: Slat position feedback	Input	5,001	C W T
39	Block 7_1: Safety	Output	1,002	C R T
33	Block 7_1: Switching	Input / Output	1,001	C W T
34	Block 7_1: Switching feedback	Output	1,001	C R T
34	Block 7_1: Dimming	Output	3,007	C T
35	Block 7_1: Dimmer value in %	Input / Output	5,001	C W T
37	Block 7_1: Temperature	Input	9,001	C W T
38	Block 7_1: Air humidity	Input	9,007	C W T
39	Block 7_1: CO2	Input	9,008	C W T
39	Block 7_1: 2 byte floating point	Input	9.*	C W T
39	Block 7_1: 4 byte floating point	Input	14.*	C W T
40	Block 7_2: Long-time	Input / Output	1,008	C W T
41	Block 7_2: Short-time	Input / Output	1,01	C W T
42	Block 7_2: Actuation position	Output	5,001	C T

No.	Name	Function	DPT	Flags
43	Block 7_2: Slat position	Output	5,001	C T
44	Block 7_2: Movement position feedback	Input	5,001	C W T
45	Block 7_2: Slat position feedback	Input	5,001	C W T
46	Block 7_2: Safety	Output	1,002	C R T
40	Block 7_2: Switching	Output	1,001	C W T
41	Block 7_2: Switching feedback	Input	1,001	C R T
41	Block 7_2: Dimming	Output	3,007	C T
42	Block 7_2: Dimmer value in %	Input / Output	5,001	C W T
44	Block 7_2: Temperature	Input	9,001	C W T
45	Block 7_2: Air humidity	Input	9,007	C W T
46	Block 7_2: CO2	Input	9,008	C W T
46	Block 7_2: 2 byte floating point	Input	9.*	C W T
46	Block 7_2: 4 byte floating point	Input	14.*	C W T
47	Block 7_3: Long-time	Input / Output	1,008	C W T
48	Block 7_3: Short-time	Input / Output	1,01	C W T
49	Block 7_3: Actuation position	Output	5,001	C T
50	Block 7_3: Slat position	Output	5,001	C T
51	Block 7_3: Movement position feedback	Input	5,001	C W T
52	Block 7_3: Slat position feedback	Input	5,001	C W T
53	Block 7_3: Safety	Output	1,002	C R T
47	Block 7_3: Switching	Output	1,001	C W T
48	Block 7_3: Switching feedback	Input	1,001	C R T
48	Block 7_3: Dimming	Output	3,007	C T
49	Block 7_3: Dimmer value in %	Input / Output	5,001	C W T
51	Block 7_3: Temperature	Input	9,001	C W T
52	Block 7_3: Air humidity	Input	9,007	C W T
53	Block 7_3: CO2	Input	9,008	C W T
53	Block 7_3: 2 byte floating point	Input	9.*	C W T
53	Block 7_3: 4 byte floating point	Input	14.*	C W T
54	Block 7_4: Long-time	Input / Output	1,008	C W T
55	Block 7_4: Short-time	Input / Output	1,01	C W T
56	Block 7_4: Actuation position	Output	5,001	C T
57	Block 7_4: Slat position	Output	5,001	C T
58	Block 7_4: Movement position feedback	Input	5,001	C W T
59	Block 7_4: Slat position feedback	Input	5,001	C W T
60	Block 7_4: Safety	Output	1,002	C R T

No.	Name	Function	DPT	Flags
54	Block 7_4: Switching	Output	1,001	C W T
55	Block 7_4: Switching feedback	Input	1,001	C R T
55	Block 7_4: Dimming	Output	3,007	C T
56	Block 7_4: Dimmer value in %	Input / Output	5,001	C W T
58	Block 7_4: Temperature	Input	9,001	C W T
59	Block 7_4: Air humidity	Input	9,007	C W T
60	Block 7_4: CO2	Input	9,008	C W T
60	Block 7_4: 2 byte floating point	Input	9.*	C W T
60	Block 7_4: 4 byte floating point	Input	14.*	C W T
61	Block 7_5: Long-time	Input / Output	1,008	C W T
62	Block 7_5: Short-time	Input / Output	1,01	C W T
63	Block 7_5: Actuation position	Output	5,001	C T
64	Block 7_5: Slat position	Output	5,001	C T
65	Block 7_5: Movement position feedback	Input	5,001	C W T
66	Block 7_5: Slat position feedback	Input	5,001	C W T
67	Block 7_5: Safety	Output	1,002	C R T
61	Block 7_5: Switching	Output	1,001	C W T
62	Block 7_5: Switching feedback	Input	1,001	C R T
62	Block 7_5: Dimming	Output	3,007	C T
63	Block 7_5: Dimmer value in %	Input / Output	5,001	C W T
65	Block 7_5: Temperature	Input	9,001	C W T
66	Block 7_5: Air humidity	Input	9,007	C W T
67	Block 7_5: CO2	Input	9,008	C W T
67	Block 7_5: 2 byte floating point	Input	9.*	C W T
67	Block 7_5: 4 byte floating point	Input	14.*	C W T
68	Block 7_6: Long-time	Input / Output	1,008	C W T
69	Block 7_6: Short-time	Input / Output	1,01	C W T
70	Block 7_6: Actuation position	Output	5,001	C T
71	Block 7_6: Slat position	Output	5,001	C T
72	Block 7_6: Movement position feedback	Input	5,001	C W T
73	Block 7_6: Slat position feedback	Input	5,001	C W T
74	Block 7_6: Safety	Output	1,002	C R T
68	Block 7_6: Switching	Output	1,001	C W T
69	Block 7_6: Switching feedback	Input	1,001	C R T
69	Block 7_6: Dimming	Output	3,007	C T
70	Block 7_6: Dimmer value in %	Input / Output	5,001	C W T
72	Block 7_6: Temperature	Input	9,001	C W T

No.	Name	Function	DPT	Flags
73	Block 7_6: Air humidity	Input	9,007	C W T
74	Block 7_6: CO2	Input	9,008	C W T
74	Block 7_6: 2 byte floating point	Input	9.*	C W T
74	Block 7_6: 4 byte floating point	Input	14.*	C W T
75	Block 7_7: Long-time	Input / Output	1,008	C W T
76	Block 7_7: Short-time	Input / Output	1,01	C W T
77	Block 7_7: Actuation position	Output	5,001	C T
78	Block 7_7: Slat position	Output	5,001	C T
79	Block 7_7: Movement position feedback	Input	5,001	C W T
80	Block 7_7: Slat position feedback	Input	5,001	C W T
81	Block 7_7: Safety	Output	1,002	C R T
75	Block 7_7: Switching	Output	1,001	C W T
76	Block 7_7: Switching feedback	Input	1,001	C R T
76	Block 7_7: Dimming	Output	3,007	C T
77	Block 7_7: Dimmer value in %	Input / Output	5,001	C W T
79	Block 7_7: Temperature	Input	9,001	C W T
80	Block 7_7: Air humidity	Input	9,007	C W T
81	Block 7_7: CO2	Input	9,008	C W T
81	Block 7_7: 2 byte floating point	Input	9.*	C W T
81	Block 7_7: 4 byte floating point	Input	14.*	C W T
82	Block 7_8: Long-time	Input / Output	1,008	C W T
83	Block 7_8: Short-time	Input / Output	1,01	C W T
84	Block 7_8: Actuation position	Output	5,001	C T
85	Block 7_8: Slat position	Output	5,001	C T
86	Block 7_8: Movement position feedback	Input	5,001	C W T
87	Block 7_8: Slat position feedback	Input	5,001	C W T
88	Block 7_8: Safety	Output	1,002	C R T
82	Block 7_8: Switching	Output	1,001	C W T
83	Block 7_8: Switching feedback	Input	1,001	C R T
83	Block 7_8: Dimming	Output	3,007	C T
84	Block 7_8: Dimmer value in %	Input / Output	5,001	C W T
86	Block 7_8: Temperature	Input	9,001	C W T
87	Block 7_8: Air humidity	Input	9,007	C W T
88	Block 7_8: CO2	Input	9,008	C W T
88	Block 7_8: 2 byte floating point	Input	9.*	C W T
88	Block 7_8: 4 byte floating point	Input	14.*	C W T

No.	Name	Function	DPT	Flags
89	Block 7_9: Long-time	Input / Output	1,008	C W T
90	Block 7_9: Short-time	Input / Output	1,01	C W T
91	Block 7_9: Actuation position	Output	5,001	C T
92	Block 7_9: Slat position	Output	5,001	C T
93	Block 7_9: Movement position feedback	Input	5,001	C W T
94	Block 7_9: Slat position feedback	Input	5,001	C W T
95	Block 7_9: Safety	Output	1,002	C R T
89	Block 7_9: Switching	Output	1,001	C W T
90	Block 7_9: Switching feedback	Input	1,001	C R T
90	Block 7_9: Dimming	Output	3,007	C T
91	Block 7_9: Dimmer value in %	Input / Output	5,001	C W T
93	Block 7_9: Temperature	Input	9,001	C W T
94	Block 7_9: Air humidity	Input	9,007	C W T
95	Block 7_9: CO2	Input	9,008	C W T
95	Block 7_9: 2 byte floating point	Input	9.*	C W T
95	Block 7_9: 4 byte floating point	Input	14.*	C W T
96	Block 7_10: Long-time	Input / Output	1,008	C W T
97	Block 7_10: Short-time	Input / Output	1,01	C W T
98	Block 7_10: Actuation position	Output	5,001	C T
99	Block 7_10: Slat position	Output	5,001	C T
100	Block 7_10: Movement position feedback	Input	5,001	C W T
101	Block 7_10: Slat position feedback	Input	5,001	C W T
102	Block 7_10: Safety	Output	1,002	C R T
96	Block 7_10: Switching	Output	1,001	C W T
97	Block 7_10: Switching feedback	Input	1,001	C R T
97	Block 7_10: Dimming	Output	3,007	C T
98	Block 7_10: Dimmer value in %	Input / Output	5,001	C W T
100	Block 7_10: Temperature	Input	9,001	C W T
101	Block 7_10: Air humidity	Input	9,007	C W T
102	Block 7_10: CO2	Input	9,008	C W T
102	Block 7_10: 2 byte floating point	Input	9.*	C W T
102	Block 7_10: 4 byte floating point	Input	14.*	C W T
103	Block 7_11: Long-time	Input / Output	1,008	C W T
104	Block 7_11: Short-time	Input / Output	1,01	C W T
105	Block 7_11: Actuation position	Output	5,001	C T
106	Block 7_11: Slat position	Output	5,001	C T

No.	Name	Function	DPT	Flags
107	Block 7_11: Movement position feedback	Input	5,001	C W T
108	Block 7_11: Slat position feedback	Input	5,001	C W T
109	Block 7_11: Safety	Output	1,002	C R T
103	Block 7_11: Switching	Output	1,001	C W T
104	Block 7_11: Switching feedback	Input	1,001	C R T
104	Block 7_11: Dimming	Output	3,007	C T
105	Block 7_11: Dimmer value in %	Input / Output	5,001	C W T
107	Block 7_11: Temperature	Input	9,001	C W T
108	Block 7_11: Air humidity	Input	9,007	C W T
109	Block 7_11: CO2	Input	9,008	C W T
109	Block 7_11: 2 byte floating point	Input	9.*	C W T
109	Block 7_11: 4 byte floating point	Input	14.*	C W T
110	Block 7_12: Long-time	Input / Output	1,008	C W T
111	Block 7_12: Short-time	Input / Output	1,01	C W T
112	Block 7_12: Actuation position	Output	5,001	C T
113	Block 7_12: Slat position	Output	5,001	C T
114	Block 7_12: Movement position feedback	Input	5,001	C W T
115	Block 7_12: Slat position feedback	Input	5,001	C W T
116	Block 7_12: Safety	Output	1,002	C R T
110	Block 7_12: Switching	Output	1,001	C W T
111	Block 7_12: Switching feedback	Input	1,001	C R T
111	Block 7_12: Dimming	Output	3,007	C T
112	Block 7_12: Dimmer value in %	Input / Output	5,001	C W T
114	Block 7_12: Temperature	Input	9,001	C W T
115	Block 7_12: Air humidity	Input	9,007	C W T
116	Block 7_12: CO2	Input	9,008	C W T
116	Block 7_12: 2 byte floating point	Input	9.*	C W T
116	Block 7_12: 4 byte floating point	Input	14.*	C W T
117	Block 7_13: Long-time	Input / Output	1,008	C W T
118	Block 7_13: Short-time	Input / Output	1,01	C W T
119	Block 7_13: Actuation position	Output	5,001	C T
120	Block 7_13: Slat position	Output	5,001	C T
121	Block 7_13: Movement position feedback	Input	5,001	C W T
122	Block 7_13: Slat position feedback	Input	5,001	C W T
123	Block 7_13: Safety	Output	1,002	C R T
117	Block 7_13: Switching	Output	1,001	C W T

No.	Name	Function	DPT	Flags
118	Block 7_13: Switching feedback	Input	1,001	C R T
118	Block 7_13: Dimming	Output	3,007	C T
119	Block 7_13: Dimmer value in %	Input / Output	5,001	C W T
121	Block 7_13: Temperature	Input	9,001	C W T
122	Block 7_13: Air humidity	Input	9,007	C W T
123	Block 7_13: CO2	Input	9,008	C W T
123	Block 7_13: 2 byte floating point	Input	9.*	C W T
123	Block 7_13: 4 byte floating point	Input	14.*	C W T
124	Block 7_14: Long-time	Input / Output	1,008	C W T
125	Block 7_14: Short-time	Input / Output	1,01	C W T
126	Block 7_14: Actuation position	Output	5,001	C T
127	Block 7_14: Slat position	Output	5,001	C T
128	Block 7_14: Movement position feedback	Input	5,001	C W T
129	Block 7_14: Slat position feedback	Input	5,001	C W T
130	Block 7_14: Safety	Output	1,002	C R T
124	Block 7_14: Switching	Output	1,001	C W T
125	Block 7_14: Switching feedback	Input	1,001	C R T
125	Block 7_14: Dimming	Output	3,007	C T
126	Block 7_14: Dimmer value in %	Input / Output	5,001	C W T
128	Block 7_14: Temperature	Input	9,001	C W T
129	Block 7_14: Air humidity	Input	9,007	C W T
130	Block 7_14: CO2	Input	9,008	C W T
130	Block 7_14: 2 byte floating point	Input	9.*	C W T
130	Block 7_14: 4 byte floating point	Input	14.*	C W T
131	Block 7_15: Long-time	Input / Output	1,008	C W T
132	Block 7_15: Short-time	Input / Output	1,01	C W T
133	Block 7_15: Actuation position	Output	5,001	C T
134	Block 7_15: Slat position	Output	5,001	C T
135	Block 7_15: Movement position feedback	Input	5,001	C W T
136	Block 7_15: Slat position feedback	Input	5,001	C W T
137	Block 7_15: Safety	Output	1,002	C R T
131	Block 7_15: Switching	Output	1,001	C W T
132	Block 7_15: Switching feedback	Input	1,001	C R T
132	Block 7_15: Dimming	Output	3,007	C T
133	Block 7_15: Dimmer value in %	Input / Output	5,001	C W T
135	Block 7_15: Temperature	Input	9,001	C W T
136	Block 7_15: Air humidity	Input	9,007	C W T

No.	Name	Function	DPT	Flags
137	Block 7_15: CO2	Input	9,008	C W T
137	Block 7_15: 2 byte floating point	Input	9.*	C W T
137	Block 7_15: 4 byte floating point	Input	14.*	C W T
138	Block 7_16: Long-time	Input / Output	1,008	C W T
139	Block 7_16: Short-time	Input / Output	1,01	C W T
140	Block 7_16: Actuation position	Output	5,001	C T
141	Block 7_16: Slat position	Output	5,001	C T
142	Block 7_16: Movement position feedback	Input	5,001	C W T
143	Block 7_16: Slat position feedback	Input	5,001	C W T
144	Block 7_16: Safety	Output	1,002	C R T
138	Block 7_16: Switching	Output	1,001	C W T
139	Block 7_16: Switching feedback	Input	1,001	C R T
139	Block 7_16: Dimming	Output	3,007	C T
140	Block 7_16: Dimmer value in %	Input / Output	5,001	C W T
142	Block 7_16: Temperature	Input	9,001	C W T
143	Block 7_16: Air humidity	Input	9,007	C W T
144	Block 7_16: CO2	Input	9,008	C W T
144	Block 7_16: 2 byte floating point	Input	9.*	C W T
144	Block 7_16: 4 byte floating point	Input	14.*	C W T
145	Block 7_17: Long-time	Input / Output	1,008	C W T
146	Block 7_17: Short-time	Input / Output	1,01	C W T
147	Block 7_17: Actuation position	Output	5,001	C T
148	Block 7_17: Slat position	Output	5,001	C T
149	Block 7_17: Movement position feedback	Input	5,001	C W T
150	Block 7_17: Slat position feedback	Input	5,001	C W T
151	Block 7_17: Safety	Output	1,002	C R T
145	Block 7_17: Switching	Output	1,001	C W T
146	Block 7_17: Switching feedback	Input	1,001	C R T
146	Block 7_17: Dimming	Output	3,007	C T
147	Block 7_17: Dimmer value in %	Input / Output	5,001	C W T
149	Block 7_17: Temperature	Input	9,001	C W T
150	Block 7_17: Air humidity	Input	9,007	C W T
151	Block 7_17: CO2	Input	9,008	C W T
151	Block 7_17: 2 byte floating point	Input	9.*	C W T
151	Block 7_17: 4 byte floating point	Input	14.*	C W T
152	Block 7_18: Long-time	Input / Output	1,008	C W T

No.	Name	Function	DPT	Flags
153	Block 7_18: Short-time	Input / Output	1,01	C W T
154	Block 7_18: Actuation position	Output	5,001	C T
155	Block 7_18: Slat position	Output	5,001	C T
156	Block 7_18: Movement position feedback	Input	5,001	C W T
157	Block 7_18: Slat position feedback	Input	5,001	C W T
158	Block 7_18: Safety	Output	1,002	C R T
152	Block 7_18: Switching	Output	1,001	C W T
153	Block 7_18: Switching feedback	Input	1,001	C R T
153	Block 7_18: Dimming	Output	3,007	C T
154	Block 7_18: Dimmer value in %	Input / Output	5,001	C W T
156	Block 7_18: Temperature	Input	9,001	C W T
157	Block 7_18: Air humidity	Input	9,007	C W T
158	Block 7_18: CO2	Input	9,008	C W T
158	Block 7_18: 2 byte floating point	Input	9.*	C W T
158	Block 7_18: 4 byte floating point	Input	14.*	C W T
159	Block 7_19: Long-time	Input / Output	1,008	C W T
160	Block 7_19: Short-time	Input / Output	1,01	C W T
161	Block 7_19: Actuation position	Output	5,001	C T
162	Block 7_19: Slat position	Output	5,001	C T
163	Block 7_19: Movement position feedback	Input	5,001	C W T
164	Block 7_19: Slat position feedback	Input	5,001	C W T
165	Block 7_19: Safety	Output	1,002	C R T
159	Block 7_19: Switching	Output	1,001	C W T
160	Block 7_19: Switching feedback	Input	1,001	C R T
160	Block 7_19: Dimming	Output	3,007	C T
161	Block 7_19: Dimmer value in %	Input / Output	5,001	C W T
163	Block 7_19: Temperature	Input	9,001	C W T
164	Block 7_19: Air humidity	Input	9,007	C W T
165	Block 7_19: CO2	Input	9,008	C W T
165	Block 7_19: 2 byte floating point	Input	9.*	C W T
165	Block 7_19: 4 byte floating point	Input	14.*	C W T
166	Block 7_20: Long-time	Input / Output	1,008	C W T
167	Block 7_20: Short-time	Input / Output	1,01	C W T
168	Block 7_20: Actuation position	Output	5,001	C T
169	Block 7_20: Slat position	Output	5,001	C T
170	Block 7_20: Movement position feedback	Input	5,001	C W T

No.	Name	Function	DPT	Flags
171	Block 7_20: Slat position feedback	Input	5,001	C W T
172	Block 7_20: Safety	Output	1,002	C R T
166	Block 7_20: Switching	Output	1,001	C W T
167	Block 7_20: Switching feedback	Input	1,001	C R T
167	Block 7_20: Dimming	Output	3,007	C T
168	Block 7_20: Dimmer value in %	Input / Output	5,001	C W T
170	Block 7_20: Temperature	Input	9,001	C W T
No.	Name	Function	DPT	Flags
171	Block 7_20: Air humidity	Input	9,007	C W T
172	Block 7_20: CO2	Input	9,008	C W T
172	Block 7_20: 2 byte floating point	Input	9.*	C W T
172	Block 7_20: 4 byte floating point	Input	14.*	C W T
173	Block 7_21: Long-time	Input / Output	1,008	C W T
174	Block 7_21: Short-time	Input / Output	1,01	C W T
175	Block 7_21: Actuation position	Output	5,001	C T
176	Block 7_21: Slat position	Output	5,001	C T
177	Block 7_21: Movement position feedback	Input	5,001	C W T
178	Block 7_21: Slat position feedback	Input	5,001	C W T
179	Block 7_21: Safety	Output	1,002	C R T
173	Block 7_21: Switching	Output	1,001	C W T
174	Block 7_21: Switching feedback	Input	1,001	C R T
174	Block 7_21: Dimming	Output	3,007	C T
175	Block 7_21: Dimmer value in %	Input / Output	5,001	C W T
177	Block 7_21: Temperature	Input	9,001	C W T
178	Block 7_21: Air humidity	Input	9,007	C W T
179	Block 7_21: CO2	Input	9,008	C W T
179	Block 7_21: 2 byte floating point	Input	9.*	C W T
179	Block 7_21: 4 byte floating point	Input	14.*	C W T
180	Block 7_22: Long-time	Input / Output	1,008	C W T
181	Block 7_22: Short-time	Input / Output	1,01	C W T
182	Block 7_22: Actuation position	Output	5,001	C T
183	Block 7_22: Slat position	Output	5,001	C T
184	Block 7_22: Movement position feedback	Input	5,001	C W T
185	Block 7_22: Slat position feedback	Input	5,001	C W T
186	Block 7_22: Safety	Output	1,002	C R T
180	Block 7_22: Switching	Output	1,001	C W T
181	Block 7_22: Switching feedback	Input	1,001	C R T

No.	Name	Function	DPT	Flags
181	Block 7_22: Dimming	Output	3,007	C T
182	Block 7_22: Dimmer value in %	Input / Output	5,001	C W T
184	Block 7_22: Temperature	Input	9,001	C W T
185	Block 7_22: Air humidity	Input	9,007	C W T
186	Block 7_22: CO2	Input	9,008	C W T
186	Block 7_22: 2 byte floating point	Input	9.*	C W T
186	Block 7_22: 4 byte floating point	Input	14.*	C W T
187	Block 3_1: Switching	Output	1,001	C W T
188	Block 3_1: Switching feedback	Input	1,001	C R T
188	Block 3_1: Dimming	Output	3,007	C T
189	Block 3_1: Dimmer value in %	Input / Output	5,001	C W T
187	Block 3_1: Temperature	Input	9,001	C W T
188	Block 3_1: Air humidity	Input	9,007	C W T
189	Block 3_1: CO2	Input	9,008	C W T
189	Block 3_1: 2 byte floating point	Input	9.*	C W T
189	Block 3_1: 4 byte floating point	Input	14.*	C W T
190	Block 3_2: Switching	Output	1,001	C W T
191	Block 3_2: Switching feedback	Input	1,001	C R T
191	Block 3_2: Dimming	Output	3,007	C T
192	Block 3_2: Dimmer value in %	Input / Output	5,001	C W T
190	Block 3_2: Temperature	Input	9,001	C W T
191	Block 3_2: Air humidity	Input	9,007	C W T
192	Block 3_2: CO2	Input	9,008	C W T
192	Block 3_2: 2 byte floating point	Input	9.*	C W T
192	Block 3_2: 4 byte floating point	Input	14.*	C W T
193	Block 3_3: Switching	Output	1,001	C W T
194	Block 3_3: Switching feedback	Input	1,001	C R T
194	Block 3_3: Dimming	Output	3,007	C T
195	Block 3_3: Dimmer value in %	Input / Output	5,001	C W T
193	Block 3_3: Temperature	Input	9,001	C W T
194	Block 3_3: Air humidity	Input	9,007	C W T
195	Block 3_3: CO2	Input	9,008	C W T
195	Block 3_3: 2 byte floating point	Input	9.*	C W T
195	Block 3_3: 4 byte floating point	Input	14.*	C W T
196	Block 3_4: Switching	Output	1,001	C W T
197	Block 3_4: Switching feedback	Input	1,001	C R T
197	Block 3_4: Dimming	Output	3,007	C T

No.	Name	Function	DPT	Flags
198	Block 3_4: Dimmer value in %	Input / Output	5,001	C W T
196	Block 3_4: Temperature	Input	9,001	C W T
197	Block 3_4: Air humidity	Input	9,007	C W T
198	Block 3_4: CO2	Input	9,008	C W T
198	Block 3_4: 2 byte floating point	Input	9.*	C W T
198	Block 3_4: 4 byte floating point	Input	14.*	C W T
199	Block 3_5: Switching	Output	1,001	C W T
200	Block 3_5: Switching feedback	Input	1,001	C R T
200	Block 3_5: Dimming	Output	3,007	C T
201	Block 3_5: Dimmer value in %	Input / Output	5,001	C W T
199	Block 3_5: Temperature	Input	9,001	C W T
200	Block 3_5: Air humidity	Input	9,007	C W T
201	Block 3_5: CO2	Input	9,008	C W T
201	Block 3_5: 2 byte floating point	Input	9.*	C W T
201	Block 3_5: 4 byte floating point	Input	14.*	C W T
202	Block 3_6: Switching	Output	1,001	C W T
203	Block 3_6: Switching feedback	Input	1,001	C R T
203	Block 3_6: Dimming	Output	3,007	C T
204	Block 3_6: Dimmer value in %	Input / Output	5,001	C W T
202	Block 3_6: Temperature	Input	9,001	C W T
203	Block 3_6: Air humidity	Input	9,007	C W T
204	Block 3_6: CO2	Input	9,008	C W T
204	Block 3_6: 2 byte floating point	Input	9.*	C W T
204	Block 3_6: 4 byte floating point	Input	14.*	C W T
205	Block 3_7: Switching	Output	1,001	C W T
206	Block 3_7: Switching feedback	Input	1,001	C R T
206	Block 3_7: Dimming	Output	3,007	C T
207	Block 3_7: Dimmer value in %	Input / Output	5,001	C W T
205	Block 3_7: Temperature	Input	9,001	C W T
206	Block 3_7: Air humidity	Input	9,007	C W T
207	Block 3_7: CO2	Input	9,008	C W T
207	Block 3_7: 2 byte floating point	Input	9.*	C W T
207	Block 3_7: 4 byte floating point	Input	14.*	C W T
208	Block 3_8: Switching	Output	1,001	C W T
209	Block 3_8: Switching feedback	Input	1,001	C R T
209	Block 3_8: Dimming	Output	3,007	C T

No.	Name	Function	DPT	Flags
210	Block 3_8: Dimmer value in %	Input / Output	5,001	C W T
208	Block 3_8: Temperature	Input	9,001	C W T
209	Block 3_8: Air humidity	Input	9,007	C W T
210	Block 3_8: CO2	Input	9,008	C W T
210	Block 3_8: 2 byte floating point	Input	9.*	C W T
210	Block 3_8: 4 byte floating point	Input	14.*	C W T
211	Block 3_9: Switching	Output	1,001	C W T
212	Block 3_9: Switching feedback	Input	1,001	C R T
212	Block 3_9: Dimming	Output	3,007	C T
213	Block 3_9: Dimmer value in %	Input / Output	5,001	C W T
211	Block 3_9: Temperature	Input	9,001	C W T
212	Block 3_9: Air humidity	Input	9,007	C W T
213	Block 3_9: CO2	Input	9,008	C W T
213	Block 3_9: 2 byte floating point	Input	9.*	C W T
213	Block 3_9: 4 byte floating point	Input	14.*	C W T
214	Block 3_10: Switching	Output	1,001	C W T
215	Block 3_10: Switching feedback	Input	1,001	C R T
215	Block 3_10: Dimming	Output	3,007	C T
216	Block 3_10: Dimmer value in %	Input / Output	5,001	C W T
214	Block 3_10: Temperature	Input	9,001	C W T
215	Block 3_10: Air humidity	Input	9,007	C W T
216	Block 3_10: CO2	Input	9,008	C W T
216	Block 3_10: 2 byte floating point	Input	9.*	C W T
216	Block 3_10: 4 byte floating point	Input	14.*	C W T
217	Block 2_1: Switching	Output	1,001	C W T
218	Block 2_1: Switching feedback	Input	1,001	C R T
217	Block 2_1: Temperature	Input	9,001	C W T
218	Block 2_1: Air humidity	Input	9,007	C W T
218	Block 2_1: 2 byte floating point	Input	9.*	C W T
218	Block 2_1: 4 byte floating point	Input	14.*	C W T
219	Block 2_2: Switching	Output	1,001	C W T
220	Block 2_2: Switching feedback	Input	1,001	C R T
219	Block 2_2: Temperature	Input	9,001	C W T
220	Block 2_2: Air humidity	Input	9,007	C W T
220	Block 2_2: 2 byte floating point	Input	9.*	C W T
220	Block 2_2: 4 byte floating point	Input	14.*	C W T

No.	Name	Function	DPT	Flags
221	Block 2_3: Switching	Output	1,001	C W T
222	Block 2_3: Switching feedback	Input	1,001	C R T
221	Block 2_3: Temperature	Input	9,001	C W T
222	Block 2_3: Air humidity	Input	9,007	C W T
222	Block 2_3: 2 byte floating point	Input	9.*	C W T
222	Block 2_3: 4 byte floating point	Input	14.*	C W T
223	Block 2_4: Switching	Output	1,001	C W T
224	Block 2_4: Switching feedback	Input	1,001	C R T
223	Block 2_4: Temperature	Input	9,001	C W T
224	Block 2_4: Air humidity	Input	9,007	C W T
224	Block 2_4: 2 byte floating point	Input	9.*	C W T
224	Block 2_4: 4 byte floating point	Input	14.*	C W T
225	Block 2_5: Switching	Output	1,001	C W T
226	Block 2_5: Switching feedback	Input	1,001	C R T
225	Block 2_5: Temperature	Input	9,001	C W T
226	Block 2_5: Air humidity	Input	9,007	C W T
226	Block 2_5: 2 byte floating point	Input	9.*	C W T
226	Block 2_5: 4 byte floating point	Input	14.*	C W T
227	Block 2_6: Switching	Output	1,001	C W T
228	Block 2_6: Switching feedback	Input	1,001	C R T
227	Block 2_6: Temperature	Input	9,001	C W T
228	Block 2_6: Air humidity	Input	9,007	C W T
228	Block 2_6: 2 byte floating point	Input	9.*	C W T
228	Block 2_6: 4 byte floating point	Input	14.*	C W T
229	Block 2_7: Switching	Output	1,001	C W T
230	Block 2_7: Switching feedback	Input	1,001	C R T
229	Block 2_7: Temperature	Input	9,001	C W T
230	Block 2_7: Air humidity	Input	9,007	C W T
230	Block 2_7: 2 byte floating point	Input	9.*	C W T
230	Block 2_7: 4 byte floating point	Input	14.*	C W T
231	Block 2_8: Switching	Output	1,001	C W T
232	Block 2_8: Switching feedback	Input	1,001	C R T
231	Block 2_8: Temperature	Input	9,001	C W T
232	Block 2_8: Air humidity	Input	9,007	C W T

No.	Name	Function	DPT	Flags
232	Block 2_8: 2 byte floating point	Input	9.*	C W T
232	Block 2_8: 4 byte floating point	Input	14.*	C W T
233	Block 2_9: Switching	Output	1,001	C W T
234	Block 2_9: Switching feedback	Input	1,001	C R T
233	Block 2_9: Temperature	Input	9,001	C W T
234	Block 2_9: Air humidity	Input	9,007	C W T
234	Block 2_9: 2 byte floating point	Input	9.*	C W T
234	Block 2_9: 4 byte floating point	Input	14.*	C W T
235	Block 2_10: Switching	Output	1,001	C W T
236	Block 2_10: Switching feedback	Input	1,001	C R T
235	Block 2_10: Temperature	Input	9,001	C W T
236	Block 2_10: Air humidity	Input	9,007	C W T
236	Block 2_10: 2 byte floating point	Input	9.*	C W T
236	Block 2_10: 4 byte floating point	Input	14.*	C W T
237	Block 1_1: Temperature	Input	9,001	C W T
237	Block 1_1: 2 byte floating point	Input	9.*	C W T
237	Block 1_1: 4 byte floating point	Input	14.*	C W T
238	Block 1_2: Temperature	Input	9,001	C W T
238	Block 1_2: 2 byte floating point	Input	9.*	C W T
238	Block 1_2: 4 byte floating point	Input	14.*	C W T
239	Block 1_3: Temperature	Input	9,001	C W T
239	Block 1_3: 2 byte floating point	Input	9.*	C W T
239	Block 1_3: 4 byte floating point	Input	14.*	C W T
240	Block 1_4: Temperature	Input	9,001	C W T
240	Block 1_4: 2 byte floating point	Input	9.*	C W T
240	Block 1_4: 4 byte floating point	Input	14.*	C W T
241	Block 1_5: Temperature	Input	9,001	C W T
241	Block 1_5: 2 byte floating point	Input	9.*	C W T
241	Block 1_5: 4 byte floating point	Input	14.*	C W T
242	Block 1_6: Temperature	Input	9,001	C W T
242	Block 1_6: 2 byte floating point	Input	9.*	C W T
242	Block 1_6: 4 byte floating point	Input	14.*	C W T

No.	Name	Function	DPT	Flags
243	Block 1_7: Temperature	Input	9,001	C W T
243	Block 1_7: 2 byte floating point	Input	9.*	C W T
243	Block 1_7: 4 byte floating point	Input	14.*	C W T
244	Block 1_8: Temperature	Input	9,001	C W T
244	Block 1_8: 2 byte floating point	Input	9.*	C W T
244	Block 1_8: 4 byte floating point	Input	14.*	C W T
245	Block 1_9: Temperature	Input	9,001	C W T
245	Block 1_9: 2 byte floating point	Input	9.*	C W T
245	Block 1_9: 4 byte floating point	Input	14.*	C W T
246	Block 1_10: Temperature	Input	9,001	C W T
246	Block 1_10: 2 byte floating point	Input	9.*	C W T
246	Block 1_10: 4 byte floating point	Input	14.*	C W T
247	Block 1_11: Temperature	Input	9,001	C W T
247	Block 1_11: 2 byte floating point	Input	9.*	C W T
247	Block 1_11: 4 byte floating point	Input	14.*	C W T
248	Block 1_12: Temperature	Input	9,001	C W T
248	Block 1_12: 2 byte floating point	Input	9.*	C W T
248	Block 1_12: 4 byte floating point	Input	14.*	C W T
249	Block 1_13: Temperature	Input	9,001	C W T
249	Block 1_13: 2 byte floating point	Input	9.*	C W T
249	Block 1_13: 4 byte floating point	Input	14.*	C W T
250	Block 1_14: Temperature	Input	9,001	C W T
250	Block 1_14: 2 byte floating point	Input	9.*	C W T
250	Block 1_14: 4 byte floating point	Input	14.*	C W T
251	Block 1_15: Temperature	Input	9,001	C W T
251	Block 1_15: 2 byte floating point	Input	9.*	C W T
251	Block 1_15: 4 byte floating point	Input	14.*	C W T
252	Block 1_16: Temperature	Input	9,001	C W T
252	Block 1_16: 2 byte floating point	Input	9.*	C W T
252	Block 1_16: 4 byte floating point	Input	14.*	C W T

No.	Name	Function	DPT	Flags
253	Block 1_17: Temperature	Input	9,001	C W T
253	Block 1_17: 2 byte floating point	Input	9.*	C W T
253	Block 1_17: 4 byte floating point	Input	14.*	C W T

8.3. Parameter setting

Malfunctions and error messages

Malfunction/Defect of the KNX interface:

- In the display unit of the **KNX WS1000 Style**, the message "KNX interface defect" is displayed instead of the weather animation.
- No communication with the bus takes place.
- If it is configured in the ETS that the weather data needs to be received from the bus, a wind or rain alarm is triggered to the controller.

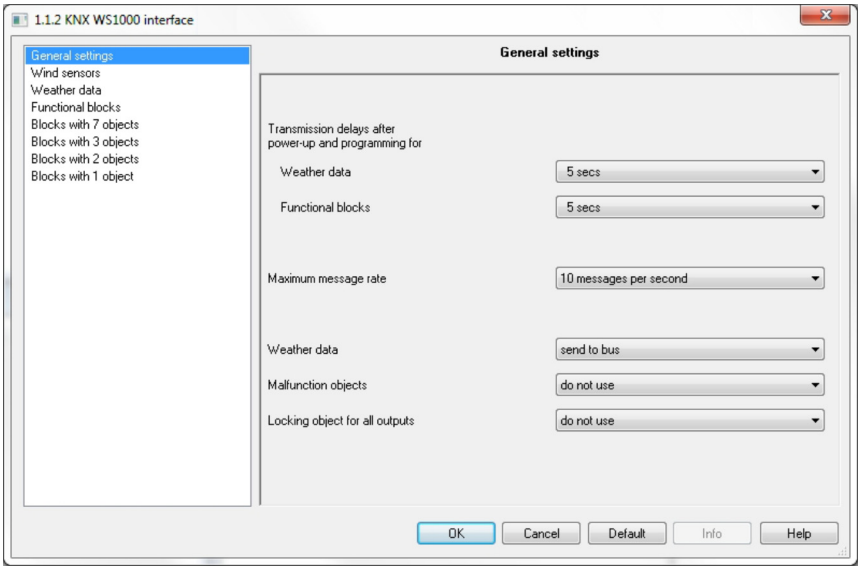
Malfunction/Defect of the controller KNX WS1000 Style (KNX interface does not receive any message from the controller for 30 seconds):

- A fault warning is transmitted to the bus.

Malfunction/Defect of a KNX sensor or actuator **that has already been configured** (no data reception):

- In the manual menu of the **KNX WS1000 Style**, the message "No measured values received" or "Position unknown" or "Defect" is displayed for the bus subscriber.

8.3.1. General settings



Transmission delays after power-up and programming for:	
Weather data	5 s • 10 s • 30 s • 1 min • ... • 2 h
Functional blocks	5 s • 10 s • 30 s • 1 min • ... • 2 h
Maximum message rate	10 • 20 messages per second
Weather data	• do not use • send to bus • receive from bus
Malfunction object	do not use • use
Locking object for all outputs	do not use • use
Blocking before 1st communication *(only if the locking object is used for all outputs)*	not active • active

8.3.2. Wind sensors

In this menu you can set the evaluation of additional wind sensors by the control. A wind sensor connected directly to the control can transmit data to the bus, a wind sensor in the bus system can transmit data to the control. The reception of data from the bus can be monitored. In this case, wind alarm will be triggered if data has not been received correctly.

Wind speed:

Monitoring time for wind sensors 1...4	5 s • 10 s • 30 s • 1 min • ... • 2 h
Wind sensor 1/2/3/4	• do nor use • transmits on bus • receives from bus (without monitoring) • receives from bus (with monitoring)

If the wind sensor is connected directly to the control an transmits on the bus:

Sending behaviour	• transmit periodically • transmit on change • transmit on change and periodically
on change of *(only if transmitting on change)*	0.5 m/s • 1.0 m/s • 2.0 m/s • 5.0 m/s
Transmit cycle *(only if transmitting periodically)*	5 secs • 10 secs • 30 secs • 1 min • ... • 2 h
Use malfunction object verwenden	No • Yes

Wind direction:

Note: The function „Wind direction: transmits on bus“ is not possible with P03i-GPS weather station, as wind direction is not detected.

Wind direction	• do nor use [• transmits on bus] • receives from bus (without monitoring) • receives from bus (with monitoring)
on change of *(only if transmitting on change)*	0.5 m/s • 1.0 m/s • 2.0 m/s • 5.0 m/s
Transmit cycle *(only if transmitting periodically)*	5 secs • 10 secs • 30 secs • 1 min • ... • 2 h
Use malfunction object verwenden	No • Yes

If the wind direction sensor is connected directly to the control and transmits on the bus:

Sending behaviour	• transmit periodically • transmit on change • transmit on change and periodically
on change of *(only if transmitting on change)*	0.5 m/s • 1.0 m/s • 2.0 m/s • 5.0 m/s
Transmit cycle *(only if transmitting periodically)*	5 secs • 10 secs • 30 secs • 1 min • ... • 2 h
Use malfunction object verwenden	No • Yes

If the reception of the wind direction from the bus is monitored:

Monitoring time of wind direction sensor	5 secs • 10 secs • 30 secs • 1 min • ... • 2 h

8.3.3. Weather data

The menu point appears only if weather data needs to be transmitted on the bus or received from it.

Weather data is transmitted on the bus

In "General Settings", the option selected is:

Weather data	send to bus

Date and time	• do not transmit • transmit periodically • send at request • send at request and periodically
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Location coordinates	• do not transmit • transmit periodically • transmit on change • transmit on change and periodically
On change of *(only if "on change" is selected)*	0.5 degree • 1 degree • 2 degrees • 5 degrees • 10 degrees
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Sun position	• do not transmit • transmit periodically • transmit on change • transmit on change and periodically
On change of *(only if "on change" is selected)*	1 ... 15 degrees
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Night switching output	• do not transmit • transmit on change • send on change to 1 • send on change to 0 • transmit on change and periodically • send on change to 1 and periodically • send on change to 0 and periodically
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Rain switching output	• do not transmit • transmit on change • send on change to 1 • send on change to 0 • transmit on change and periodically • send on change to 1 and periodically • send on change to 0 and periodically

Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Temperature measurement value	• do not transmit • transmit periodically • transmit on change • transmit on change and periodically
On change of *(only if "on change" is selected)*	0.1°C • 0.2°C • 0.5°C • 1.0°C • 2.0°C • 5.0°C
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Wind measurement	• do not transmit • transmit periodically • transmit on change • transmit on change and periodically
On change of *(only if "on change" is selected)*	0.5 m/s • 1 m/s • 2 m/s • 5 m/s
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Brightness measurement value	• do not transmit • transmit periodically • transmit on change • transmit on change and periodically
On change of *(only if "on change" is selected)*	2% • 5% • 10% • 25% • 50%
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h

Weather data is received from the bus

In "General Settings", the option selected is:

Weather data	receive from bus

Set the monitoring of the wind and rain objects:

Use monitoring of wind and rain objects	No • Yes
Monitoring period for wind object	5 s • 10 s • 30 s • 1 min • ... • 2 h
Monitoring period for rain object	5 s • 10 s • 30 s • 1 min • ... • 2 h

If the **KNX WS1000 Style** does not receive any wind measured value or the precipitation status, a wind alarm or rain alarm is triggered to the controller. Drives with appropriate automatic settings for wind or rain protection then move to the safe position.

No date / time (**KNX WS1000 Style** is not receiving any time information from the bus after start-up/reset):

- In the display unit of the **KNX WS1000 Style**, the message "Please set the time" is displayed instead of the weather animation.

No weather data (**KNX WS1000 Style** is not receiving any weather data from the bus after start-up/reset):

- In the display unit of the **KNX WS1000 Style**, the message "No link to the weather station" is displayed instead of the weather animation.
- There is no automatic control active and the wind and rain alarms are cautiously active, i.e. drives with the appropriate settings for wind and rain protection move to the safe position.
- The normal automatic mode of operation is restored only if all the weather data has been received (brightness value, wind value, precipitation status and value of outdoor temperature).

8.3.4. Functional blocks

Sending behaviour of safety objects	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Transmit cycle *(only if "periodically" is selected)*	5 s • 10 s • 30 s • 1 min • ... • 2 h
Use blocks with 7 objects	No • Yes
Use blocks with 3 objects	No • Yes
Use blocks with 2 objects	No • Yes
Use blocks with 1 object	No • Yes

Blocks with 7 objects

The menu point appears only if the option that blocks with 7 objects should be used has been selected with "Functional blocks".

The data for awnings, blinds, shutters, windows and Elsner electronic ceiling fans WL305/610 is transmitted with the help of these 22 blocks. The blocks are also suitable for light, dimmers, buttons, 3-way combination sensors (temperature, humidity and CO2), thermal hygrometer, temperature sensors and floating point values.

In "Functional Blocks", the option selected is:

Use blocks with 7 objects	**Yes**

Block 7_1 ... Block 7_22	• Do not use • Output: Blind • Output: Awning • Output: Shutters • Output: Windows • Output: Sliding window • Output: Step window • Output: Light switchable • Output: Light dimmable • Input: Up/down key • Input: On/Off key • Input: Temperature • Input: Temperature, humidity • Input: Temperature, humidity, CO2 • Input: 2 byte floating point • Input: 4 byte floating point • Fan WL305/610

Bus communication of wireless ventilation units

If wireless ventilation units are switched to level 1 of air extraction, the flap is open but the blower stands still. Air extraction level = 12.5% is transmit on the bus.

🕮 Manual WS1000, 3.1.7. Setting ventilation automation, Ventilation levels of wireless ventilators

Blocks with 3 objects

The menu point appears only if the option that blocks with 3 objects should be used has been selected with "Functional blocks".

The data for dimmers and 3-way combination sensors (temperature, humidity and CO2) is transmitted with the help of these 10 blocks. The blocks are also suitable for light, buttons, thermal hygrometer, temperature sensors and floating point values.

In "Functional Blocks", the option selected is:

Use blocks with 3 objects	**Yes**

Block 3_1 ... Block 3_10	• Do not use • Output: Light switchable • Output: Light dimmable • Input: Up/down key • Input: On/Off key • Input: Temperature • Input: Temperature, humidity • Input: Temperature, humidity, CO2 • Input: 2 byte floating point • Input: 4 byte floating point

Blocks with 2 objects

The menu point appears only if the option that blocks with 2 objects should be used has been selected with "Functional blocks".

The data for light, buttons and the thermal hygrometer is transmitted with the help of these 10 blocks. The blocks are also suitable for temperature sensors and floating point values.

In "Functional Blocks", the option selected is:

Use blocks with 2 objects	**Yes**

Block 2_1 ... Block 2_10	• Do not use • Output: Light switchable • Input: Up/down key • Input: On/Off key • Input: Temperature • Input: Temperature, humidity • Input: 2 byte floating point • Input: 4 byte floating point

Blocks with 1 object

The menu point appears only if the option that blocks with 1 object should be used has been selected with "Functional blocks".

The data for temperature sensors and floating point values is transmitted with the help of these 17 blocks.

In "Functional Blocks", the option selected is:

Use blocks with 1 object	**Yes**

Block 1_1 ... Block 1_17	• Do not use • Input: Temperature • Input: 2 byte floating point • Input: 4 byte floating point

Elsner Elektronik GmbH Control and Automation Technology
Sohlengrund 16
75395 Ostelsheim
Germany
Phone +49 (0) 7033/30945-0
Fax +49 (0) 7033/30945-20
info@elsner-elektronik.de
www.elsner-elektronik.de

Technical support: +49 (0) 70 33 / 30 945-250