

Corlo Touch KNX

Display and Touch Switch



| | |
|---|-----------|
| 1. Description | 6 |
| 1.1. Description | 7 |
| 1.1.1. Deliverables | 7 |
| 1.1.2. Technical data | 8 |
| 1.1.3. Customizing options | 9 |
| Illuminated labeling/logo | 9 |
| Colors for surround and frame | 9 |
| 1.2. Installation and start-up | 10 |
| 1.2.1. Installation notes | 10 |
| 1.2.2. Installation | 10 |
| Assembly site and assembly preparations | 10 |
| Assembling the frame and the display unit | 11 |
| Connection overview | 13 |
| 1.2.3. Instructions for assembly and operational start-up | 13 |
| 1.3. Addressing the device | 14 |
| 1.4. Maintenance and care | 14 |
| 1.5. Load individual images | 15 |
| 1.5.1. Images for screensaver | 15 |
| 1.5.2. Images for image display | 15 |
| 1.5.3. Exchanging images and graphics | 15 |
| 1.6. Connection/control options | 16 |
| 1.6.1. An overview of the automatic functions | 16 |
| 1.6.2. Overview of functions | 19 |
| 1.7. List of communications objects | 19 |
| 2. System settings via ETS | 34 |
| 2.1. Basic configuration in the ETS | 35 |
| 2.2. System language | 35 |
| 2.3. Editable text language | 36 |
| 2.4. Display | 37 |
| 2.5. Ambient lighting | 40 |
| 2.6. Logo illumination | 41 |
| 2.7. Button tone | 43 |
| 2.8. Proximity sensor | 44 |
| 2.9. Alarm | 45 |
| 2.10. Weekly timer | 46 |
| 2.10.1. Periods 1 ... 16 | 46 |
| 2.11. Alarm | 47 |
| 2.12. Service | 49 |

| | |
|---|------------|
| 3. System settings via touch display | 50 |
| 3.1. Access codes for display menus | 51 |
| 3.2. System language | 52 |
| 3.3. Editable text language | 53 |
| 3.4. Display | 53 |
| 3.4.1. Cleaning mode | 53 |
| 3.4.2. Screen options | 54 |
| 3.4.3. Brightness | 54 |
| 3.4.4. Screen saver | 56 |
| 3.4.5. Start display | 58 |
| 3.4.6. No-touch action | 59 |
| 3.5. Ambient lighting | 59 |
| 3.5.1. Brightness | 60 |
| 3.5.2. Colour | 62 |
| 3.6. Logo illumination | 63 |
| 3.6.1. Brightness | 64 |
| 3.6.2. Colour | 65 |
| 3.7. Button tone | 68 |
| 3.8. Alarm | 69 |
| 3.9. Timer | 71 |
| 3.10. Alarm | 72 |
| 3.11. Service | 75 |
| 3.11.1. Reset the access code | 75 |
| 3.11.2. Reset the system to the status of the last ETS download | 75 |
| 3.11.3. Device reset | 75 |
| 3.11.4. Addressing the equipment | 76 |
| 3.11.5. Info | 76 |
| 3.11.6. License | 76 |
| 4. Set up display screens | 78 |
| 4.1. Select screen on display | 79 |
| 4.2. Setting up screens in the ETS | 79 |
| Area | 80 |
| Rocker | 82 |
| Rotary control | 83 |
| 4.2.1. Overview predefined screens | 86 |
| 4.2.2. Symbol overview | 92 |
| 5. Automatic functions | 100 |
| Safety notes for automatic functions | 101 |

| | |
|--|------------|
| 5.1. General automation settings | 101 |
| 5.1.1. Allocate automation | 102 |
| 5.1.2. Sun position | 102 |
| 5.1.3. Adapt parameters | 104 |
| General automation settings | 104 |
| Wind alarm | 104 |
| Twilight | 105 |
| Travel delays | 105 |
| Windows opening limitation | 105 |
| Ventilation lock | 106 |
| Night-time re-cooling | 106 |
| Frost alarm | 106 |
| Heat protection | 107 |
| Automatic Reset | 107 |
| 5.2. Automatic light mode | 108 |
| 5.3. Shade automation (shutters, awnings, blinds) | 109 |
| 5.3.1. Set bus communication | 109 |
| 5.3.2. Changing basic parameters | 111 |
| 5.3.3. Setting the blind automation | 111 |
| Setting the shading | 112 |
| Sun position angle | 117 |
| 5.4. Automatic window mode | 117 |
| 5.4.1. Set bus communication | 117 |
| 5.4.2. Changing basic parameters | 118 |
| 5.4.3. Setting the window automation | 119 |
| Setting the window ventilation | 119 |
| 5.5. Automatic fan mode | 122 |
| 5.5.1. Set bus communication | 122 |
| 5.5.2. Changing basic parameters | 122 |
| 5.5.3. Setting the automatic ventilation | 123 |
| Ventilation settings | 123 |
| 5.6. Temperature controller | 125 |
| General regulation | 125 |
| General set point values | 127 |
| Heating control level 1/2 | 130 |
| Cooling control level 1/2 | 132 |
| | |
| 6. Additional settings (ETS) | 136 |
| | |
| 6.1. Interfaces | 137 |
| 6.1.1. Interface 1-4 | 137 |
| Control modes for drive control | 140 |
| 6.2. Temperature threshold values | 141 |
| 6.2.1. Threshold values 1-4 | 142 |
| 6.3. Scenario control | 143 |

| | |
|---|------------|
| 6.3.1. Scene objects 1 - 16 | 144 |
| 6.4. Logic (ETS) | 144 |
| 6.4.1. AND logic outputs 1/2/3/4 and OR logic outputs 1/2/3/4 | 145 |



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.

ETS

In the ETS tables, the parameter default settings are marked by underlining.

1. Description

1.1. Description

The **Display Corlo Touch KNX** for the KNX system offers a variety of options for its use: Its touch-sensitive glass interface means that it can be used as a normal switch. The high resolution display is ideal for displaying text, images or graphics. In addition to current readings and messages, the KNX bus system can also display photographs, for example. Concurrently, you can set up the **Corlo Touch KNX** as a control center for automatic shading, ventilation and air conditioning regulation.

Functions:

- 3.5" touch-sensitive interface
- **10 display pages**, which can be configured with different areas for control or display purposes, for example switches, buttons, rocker switch, rotary knob, readings
- Icons for display can be exchanged (symbol library in the device, own pictures from by micro SD card)
- **Ambient lighting** with individually variable colors (RGB)
- Illuminated logo (optional) with individually variable colors (RGB). See "Illuminated labeling/logo" on page 9.
- Integrated **proximity sensor**. Enables proximity switching and fast activation of the display from standby mode
- Integrated **brightness sensor** for automatic adjustment of the display lighting
- Integrated scene **control**(16 scenes), **timer**, **alarm clock**
- **5 automatic channels** , integrated **automation for ventilation** (windows, ventilation equipment), for **shading** (shutter, blinds, awning) for **air conditioning regulation** (heating, cooling) and for **light**
- **4 AND and 4 OR logic gates** each with 4 inputs. 16 logic inputs (in the form of communication objects) are available as inputs for the logic gates. The output of each gate can be optionally configured as 1-bit or 2 x 8-bit
- **4 inputs** for binary contact or temperature sensor
- **Micro SD card socket** e.g. as storage for image data
- **USB interface**

Configuration is performed using the KNX software ETS. The **programme file** (format VD), the data sheet and the manual can be downloaded from the Elsner Elektronik homepage on www.elsner-elektronik.de in the "Service" menu.

1.1.1. Deliverables

- Display unit
- Analog/digital input breakout cable

You will *also* require (not included in deliverables):

- Corlo frame (available as a single, dual, or triple frame)

Optional accessories:

(not included in the deliverables):

- T-NTC temperature sensor (No. 30516)

- Micro SD card for image data (off the shelf)

1.1.2. Technical data

| | |
|-----------------------------------|--|
| Housing | Glass: Schott Xensation, hardened, Surround: chromed zinc pressure die casting, Housing: plastic |
| Display | Visible diagonal: 3,5 inches Resolution: 320 × 240 pixel Viewing Angle: 6 o'clock viewing direction Opening angle x: -75° to +75° typ. Opening angle y: -55° to +75° typ. |
| Colors | <ul style="list-style-type: none"> • White glass, bright chromed surround • White glass, matt chromed surround • Black glass, bright chromed surround • Black glass, matt chromed surround • Special colors on request (see <i>Colors for surround and frame</i>, Page 9) |
| Assembly | Flush mounting (Wall installation in junction box Ø 60 mm) |
| Dimensions | Housing overall approx. 80 × 71 × 49 (W × H × D, mm), Mounting depth approx. 12.5 mm |
| Weight | Display unit approx. 140 g, frame 1-gang approx. 75 g, frame 2-gang approx. 95 g, frame 3-gang approx. 115 g |
| Ambient temperature | Operation 0...+50°C, storage -10...+50°C |
| Ambient humidity | max. 95% RH, avoid condensation |
| Operating voltage | 12...24 V DC |
| Power consumption | <ul style="list-style-type: none"> • approx. 1.3 W maximum (when ambient and logo lighting 100% white, display brightness 100%) • approx. 0.9 W in normal operation (when ambient and logo lighting off, display brightness 50%) • approx. 0.6 W in standby operation (when ambient and logo lighting off, display off) |
| Data output/ bus communication | KNX +/- Bus connector terminal |
| BCU type | unit's own microcontroller |
| PEI type | 0 |
| Group addresses | max. 1024 |
| Assignments | max. 1024 |
| Communication objects | 1022 |
| Other data interfaces | Micro SD, USB |
| Inputs | 4x Analog/digital, max. cable length 10 m |

The product conforms with the provisions of EC guidelines

- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

The following standards and/or technical specifications have been applied:

- EN 50491-5-1: 2010
- EN 50491-5-2: 2011
- EN 50491-5-3: 2011

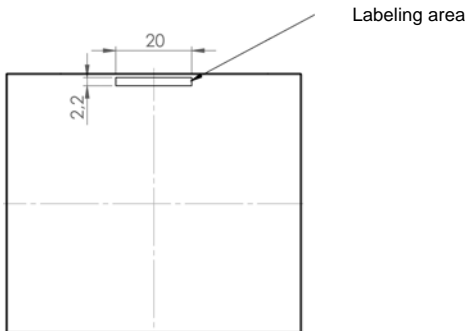
1.1.3. Customizing options

illuminated labeling/logo

The display **Corlo Touch KNX** can be provided with individual labeling or logo. The "logo labeling" option must be quoted when ordering (refer also to the price list); retrospective labeling is not possible. Return is not acceptable for personalized products.

The logo is engraved by lasing in the paint above the display and is backlit. The light color is adjustable and can also be matched to the ambient lighting.

When choosing a logo, please note the maximum usable area of 20 mm × 2.2 mm (width × height). We need the desired logo as a vector file. We will check the data and you will receive feedback on the technical and design feasibility of your labeling.



Colors for surround and frame

The standard colors for the display surround and matching frame are matt chrome and bright chrome. Special paints are possible, e. g. to RAL or automobile paint color codes. Please ask for your desired color.

The glass pane is only available with white or black painting, special colours are not possible.

1.2. Installation and start-up

1.2.1. Installation notes



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



CAUTION! **Live voltage!**

There are unprotected live components inside the device.

- National legal 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 immediately for any mechanical damages. 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.

1.2.2. Installation

Assembly site and assembly preparations



The device must only be installed and operated in dry, indoor spaces. Avoid condensation.

Avoid direct light (sunlight, lights) when choosing the assembly site. The proximity sensor's function can be impaired by strong light sources.

Choose the assembly height based on the application in each case: When used as a switch, the **Corlo Touch KNX** should be mounted 110 cm above ground level and when used as an indicating and control display, at a conveniently legible height, say 150 cm.

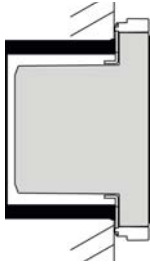


Fig. 1: Sectional drawing.

The **Display Corlo Touch KNX** fits in a normal junction box (R 60 mm, depth 42 mm).

If the analog/digital inputs are used, a deep socket (60 mm) or an electronics socket should be used. In this way, cables can be connected and stowed more conveniently.

When using a dual or triple frame, two or three sockets with a separation of 71 mm must be placed accordingly. The frames must be installed vertically.

Overall dimensions with frame:

Single, approx. 80 mm x 81 mm (W x H),

Dual, approx. 80 mm x 153 mm (W x H),

Triple, approx. 80 mm x 224 mm (W x H),

Mounting depth approx. 12.5 mm

Assembling the frame and the display unit

The instructions show installation of display unit with a single frame. Dual and triple frames are installed accordingly.



Fig. 2

A socket with 4 screw domes facilitates installation.

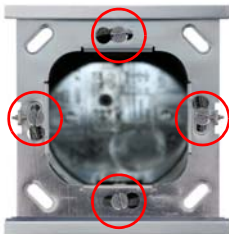


Fig. 3

Bolt the frame on to the socket. Two screws (right/left or top/bottom) are enough.

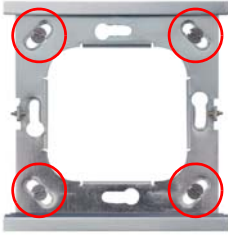


Fig. 4

If the screw domes of the box used are not covered with the frame's longitudinal holes, the frame can alternatively be bolted via the four outside holes (e.g. for boxes from Swiss systems or other installation systems).

Connect KNX bus, auxiliary voltage und where required the breakout cable for analog/ digital inputs to the display unit.



Fig. 5

The display unit can now be put in place. The wider part of the display surround must be at the bottom. The display unit engages on the right and left sides and is also held by magnets.

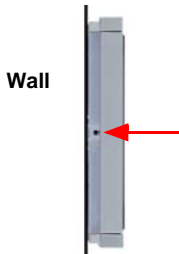


Fig. 6

To remove the display unit from the frame, press one of the snaplock connections on the side of the device with a pointed instrument. You can now pull the device to the front at the unlocked side und remove it.

Connection overview

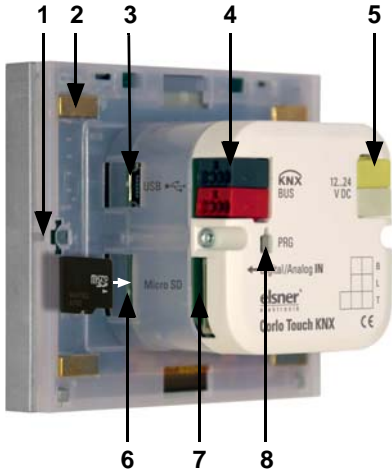


Fig. 7

- 1 Snaplock connector seating
- 2 Magnets (additional fixing)
- 3 USB socket
- 4 KNX terminal bus +/-
- 5 Terminal auxiliary supply 12...24V DC, terminal configuration independent from polarity
- 6 Micro SD socket (card contacts must show in the direction of the display when inserting it)
- 7 Analog/digital inputs socket
- 8 Programming button for addressing the device at the bus (recessed)

Connect the bus voltage (no. 4, red/black terminals) and auxiliary voltage (no. 5, yellow/white terminals). Use the attached breakout cable for connecting the digital/ analog inputs (no. 7). The cables for the inputs can be extended to up to 10 m.



Fig. 8

- Breakout cable for analog/digital inputs:
- Input 1: black/white
 - Input 2: black/yellow
 - Input 3: black/lilac
 - Input 4: black/blue

1.2.3. Instructions for assembly and operational start-up

Never expose the sensor to water (e.g. rain) or dust. This can damage the electronics. You must not exceed a relative air humidity of 95%. Avoid condensation.

After the operating voltage has been applied, the device will enter an initialization phase lasting 5 seconds. During this phase no information can be received via the bus.

1.3. Addressing the device

The programming mode for addressing at the bus is activated via the programming button at the back of the housing or via the display.

- Settings > System > Service > KNX



KNX programming LED ON:
Programming mode active.

KNX programming LED OFF:
Programming mode off.

The current address is displayed (Address 15.15.250 when delivered).

1.4. Maintenance and care

Fingerprints on the glass area and frame are best removed with a cloth moistened with water or a microfiber cloth. Do not use an abrasive cleaning agent or aggressive cleansing agents.

For cleaning of the screen, the „cleaning mode“ can be used, that is activated via the display.

- Settings > Cleaning Mode

During a period set in the ETS, the touch function is disabled then and the screen can be cleaned.



1.5. Load individual images

1.5.1. Images for screensaver

Images that are shown as the screensaver must be stored on a micro SD card. In order that the system can recognize the SD card, carry out a reset in the menu after inserting it

Settings> System > Reset

This is not *necessary* if the card was inserted before booting the system. The card must remain in the device.

Store images in the given size in a corresponding folder on the top level of the SD card:

| Image type | Resolution | File format | Folder name |
|-------------------------------------|------------------|-----------------|-------------|
| Images for slide show | 320 × 240 pixels | .jpg (RGB mode) | slideshow |
| Images for individual image display | 320 × 240 pixels | .jpg (RGB mode) | diafix |

Images for individual image display ("diafix" folder) must have a 4-digit numerical sequence so that they can be called up in the ETS and in the menu (0001...9999).

1.5.2. Images for image display

Images can be called up as a stationary display (e. g. welcome screen). In contrast to the screensaver, the touch function is disabled while a stationary image is displayed.

Images that are to be called up via the "Stationary Image" communication object must be stored on a micro SD card. In order that the system can recognize the SD card, carry out a reset in the menu after inserting it

Settings> System > Reset

This is not *necessary* if the card was inserted before booting the system. The card must remain in the device.

Store images in the given size in a corresponding folder on the top level of the SD card:

| Image type | Resolution | File format | Folder name |
|-------------------|------------------|-----------------|-------------|
| Stationary images | 320 × 240 pixels | .jpg (RGB mode) | festbilder |

Stationary images must have a 4-digit numerical sequence so that they can be called up in the ETS and in the menu (0001...9999).

1.5.3. Exchanging images and graphics

For the **Corlo Touch KNX** display pages, a large number of icons from the area of security, multimedia, sensors, operation, house, light and air conditioning and drive

control are available and these are stored in the device. However, you can also use proprietary symbol graphics and rotary control graphics.

Images that are shown as icons must be stored on a micro SD card. In order that the system can recognize the SD card, carry out a reset in the menu after inserting it Settings> System > Reset

This is not *necessary* if the card was inserted before booting the system. The card must remain in the device.

Store images in the given size in a corresponding folder on the top level of the SD card:

| Image type | Resolution | File format | Folder name |
|--------------------------|------------------|-------------|-------------|
| Icons for symbols | 48 × 48 pixels | .png | icons |
| Icons for rotary control | 158 × 158 pixels | .png | icons |

1.6. Connection/control options

For the automatic control of shading, ventilation etc., several different **ambient parameters/measuring values** must be provided via the bus. Chapter *An overview of the automatic functions*, Page 16 contains a list of the parameters needed for the individual automatic functions.

A temperature sensor to capture the room temperature may also be directly connected to one of the **4 analogue/digital input** of the device. Those inputs may also be used to connect conventional buttons, switches and window contacts.

Date and time should be received at least once a day via the bus (objects no. 7 or 8+9). Object no. 10 serves to request the date and time. The internal device clock deviates max. ±3 seconds per day. The alarm function of the **Corlo Touch KNX** is only active after the current time has been received from the bus.

1.6.1. An overview of the automatic functions

The **Display Corlo Touch KNX** has five automatic channels which may be dedicated to the functions, light, awning, shutter, blind, window, ventilation device and temperature control (heating/cooling).

General instructions:

- The entire runtime is completed for timed closures (no movement position)
- The movement positions are only settable in the shading and ventilation areas

Lighting:

In order to control the lighting, the ambient parameters/measuring values are needed:

- Brightness
- Time

are needed.

- Switching or dimming For dimming, the brightness can be set for ON/OFF.

- Switching on at night and in regular periods. Both may also be combined (AND/OR). The twilight value is adjustable.
- Automatic resets (time/periods can be set)

Shutters, awnings, blinds:

In order to control the shading, the ambient parameters/measuring values

- Brightness
- Sun position
- Outdoor temperature
- Indoor temperature
- Wind speed
- Precipitation warning
- Time

are needed.

- Shading dependent on brightness and position of the sun (sun elevation and direction) or all the time (privacy, i.e. modification of slat and movement position only) or never (only close at night/at set times, protection against rain, wind and frost).
- Movement position and slat position can be set in two degrees. Slat retraction dependent on sun elevation possible
- Travel delays during extension/retraction can be set
- Night-time closure
- Timed closure
- Interior temperature block: Leave open until a selected interior temperature is reached
- Outdoor temperature block: Shading active only once a pre-set outdoor temperature is exceeded
- Heat protection (alternative movement position)
- Frost protection (retraction when precipitation below a pre-set outdoor temperature)
- Wind protection (retraction when a pre-set wind speed is exceeded)
- Rain protection (retraction during precipitation)
- Automatic resets (time/periods can be set)

Window

In order to control the windows, the ambient parameters/measuring values

- Outdoor temperature
- Indoor temperature
- Indoor air humidity
- CO2 content of indoor air
- Wind speed
- Precipitation warning
- Time

are needed.

- Graded opening with up to 10 levels
- Movement position/opening limitation
- Ventilation based on indoor temperature, air humidity and room air CO2 content
- Outdoor temperature block: Block when below a selected outdoor temperature
- Frost protection: Retraction when precipitation below a pre-set outdoor temperature
- Close when the supply air temperature is higher than the room temperature
- Rain protection: Close completely or to only provide a gap during rainfall
- Wind protection: Close when a pre-set wind speed is exceeded
- Timed ventilation, timed closure
- Night-time re-cooling (period, room temperature and window opening can be set)
- Automatic resets (time/periods can be set)

Ventilation device

In order to control ventilation devices, the ambient parameters/measuring values

- Outdoor temperature
- Indoor temperature
- Indoor air humidity
- CO2 content of indoor air
- Time

are needed.

- Rotational speed can be adjusted
- Ventilation based on indoor temperature, air humidity and room air CO2 content
- Outdoor temperature block: Block when below a selected outdoor temperature
- No ventilation when the supply air temperature is higher than the room temperature
- Timed ventilation
- Night-time re-cooling (period, room temperature and ventilator rotational speed can be set)
- Automatic resets (time/periods can be set)

Heating and cooling

For the control of heating/cooling, the ambient parameter/measuring value

- Indoor temperature
- is needed.
- Heating and cooling can be set in two degrees, 1. Level PI control, 2. Level PI control or 2-point control
 - The values for the comfort, standby, eco and frost protection modes can be set separately, or the comfort value is used as the starting point.
 - Switch between heating and cooling by means of a dead zone or by means of a switching object

- Day extension (eco mode may be temporarily deactivated)
- Frost protection (reference value and activation delay can be set)
- Heat protection (reference value and activation delay can be set)

1.6.2. Overview of functions

| May be set/modified | via ETS | on the display |
|--|---------|--------------------------------|
| Screen (brightness, screen saver...) | Yes | Yes |
| Ambient lighting | Yes | Yes |
| Logo lighting (only for engraved logos) | Yes | Yes |
| Button tone | Yes | Yes |
| Proximity sensor | Yes | – |
| Alarm | Yes | Yes |
| Timer | Yes | (modification only) |
| Alarm | Yes | Yes |
| Set language | Yes | Yes |
| Enter text (editable text, names, functions) | Yes | – not available in Version 0.1 |
| Display page design (layout) | Yes | – |
| Symbols area, rockers, wheels (icons) | Yes | – not available in Version 0.1 |
| Automatic settings | Yes | – not available in Version 0.1 |
| Interface assignment | Yes | – |
| Temperature threshold values | Yes | – |
| Scenes | Yes | – |
| Logic | Yes | – |
| Access codes | Yes | (modification, reset only) |

1.7. List of communications objects

DTP: Data Point Type

Abbreviation flags:

C Communication

R Read

W Write

T Transfer

U Update

System

| No. | Name | Function | DPT | Length in byte | Flags |
|-----|-------------------------------------|----------------|---------------|----------------|------------|
| 1 | Software version | Output | 217.001 | 2 | C R T |
| 2 | Unit malfunction | Output | 1.001 | 1 | C R T |
| 3 | System language selection | Input | 234.001 | 2 | C W |
| 4 | Key language selection | Input | 234.001 | 2 | C W |
| 5 | Reset access code | Input | 1.017 | 1 | C W |
| 6 | Reset to last loaded ETS parameters | Input | 1.017 | 1 | C W |
| 7 | Date / time | Input | 19.001 | 8 | C W T |
| 8 | Date | Input | 11.001 | 3 | C W T |
| 9 | Time | Input | 10.001 | 3 | C W T |
| 10 | Date and time request | Input / Output | 1.017 | 1 | C R W |
| 11 | Reserve | | | | |
| 12 | Status room brightness | Output | 1.001 | 1 | C R T |
| 13 | Reserve | | | | |
| 14 | Display page selection | Input | 05. Oct. 5 | 1 | C W |
| 15 | Touch lock | Input | 1.001 | 1 | C W |
| 16 | Temporary touch lock | Input | 1.001 | 1 | C W |
| 17 | Screen saver | Input | 1.001 | 1 | C W |
| 18 | Image selection from SD Card | Input | 5.001 | 1 | C W |
| 19 | Reserve | | | | |
| 20 | Reserve | | | | |
| 21 | Display light brightness in % | Input | 5.001 | 1 | C W |
| 22 | Ambient lighting brightness in % | Input | 5.001 | 1 | C W |
| 23 | Ambient lighting red ratio in % | Input / Output | 5.001 | 1 | C R W T |
| 24 | Ambient lighting green ratio in % | Input / Output | 5.001 | 1 | C R W T |
| 25 | Ambient lighting blue ratio in % | Input / Output | 5.001 | 1 | C R W T |
| 26 | Ambient lighting RGB | Input / Output | 232.600 | 3 | C R W T |
| 27 | Reserve | | | | |
| 28 | Reserve | | | | |
| 29 | Logo lighting brightness in % | Input | 5.001 | 1 | C W |
| 30 | Logo lighting red ratio in % | Input / Output | 5.001 | 1 | C R W T |
| 31 | Logo lighting green ratio in % | Input / Output | 5.001 | 1 | C R W T |

| No. | Name | Function | DPT | Length in byte | Flags |
|--------|-------------------------------|----------------|---------|----------------|---------|
| 32 | Logo lighting blue ratio in % | Input / Output | 5.001 | 1 | C R W T |
| 33 | Logo lighting RGB | Input / Output | 232.600 | 3 | C R W T |
| 34 | Activate button tone | Input / Output | 1.001 | 1 | C R W T |
| 35 | Reserve | | | | |
| 36 | Reserve | | | | |
| 37 | Reserve | | | | |
| 38 | Approach proximity sensor | Output | 5.* | 1 | C R T |
| 39 | Reserve | | | | |
| 40 | Retreat from proximity sensor | Output | 5.* | 1 | C R T |
| 41-55 | Reserve | | | | |
| 56 | Alarm 1 | Input | 1.001 | 1 | C W |
| 57 | Alarm 1 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 58 | Alarm 2 | Input | 1.001 | 1 | C W |
| 59 | Alarm 2 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 60 | Alarm 3 | Input | 1.001 | 1 | C W |
| 61 | Alarm 3 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 62 | Alarm 4 | Input | 1.001 | 1 | C W |
| 63 | Alarm 4 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 64 | Alarm 5 | Input | 1.001 | 1 | C W |
| 65 | Alarm 5 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 66 | Alarm 6 | Input | 1.001 | 1 | C W |
| 67 | Alarm 6 Acknowledge | Input / Output | 1.001 | 1 | C W T |
| 68-79 | Reserve | | | | |
| 80 | Alarm activation | Input / Output | 1.001 | 1 | C R W T |
| 81 | Alarm clock time | Input / Output | 10.001 | 3 | C R W T |
| 82 | Alarm clock | Output | 1.001 | 1 | C R T |
| 83 | Alarm acknowledgement | Input / Output | 1.001 | 1 | C W T |
| 84 | Alarm repeat | Input / Output | 1.001 | 1 | C R W T |
| 85-100 | Reserve | | | | |

Pages

| No. | Name | Function | DTP | Length in byte | Flags |
|---------|----------------------------|----------------|--------|----------------|---------|
| 101 | Page 1 area 1A | Input / Output | 16.000 | 14 | C R W T |
| 102 | Page 1 area 1B | Output | 1.010 | 1 | C R T |
| 103 | Page 1 area 1C | Input | 5.001 | 1 | C W |
| 104 | Page 1 area 1D | Input | 5.001 | 1 | C W |
| 105 | Page 1 area 2A | Input / Output | 16.000 | 14 | C R W T |
| 106 | Page 1 area 2B | Output | 1.010 | 1 | C R T |
| 107 | Page 1 area 2C | Input | 5.001 | 1 | C W |
| 108 | Page 1 area 2D | Input | 5.001 | 1 | C W |
| 109 | Page 1 area 3A | Input / Output | 16.000 | 14 | C R W T |
| 110 | Page 1 area 3B | Output | 1.010 | 1 | C R T |
| 111 | Page 1 area 3C | Input | 5.001 | 1 | C W |
| 112 | Page 1 area 3D | Input | 5.001 | 1 | C W |
| 113 | Page 1 area 4A | Input / Output | 16.000 | 14 | C R W T |
| 114 | Page 1 area 4B | Output | 1.010 | 1 | C R T |
| 115 | Page 1 area 4C | Input | 5.001 | 1 | C W |
| 116 | Page 1 area 4D | Input | 5.001 | 1 | C W |
| 117 | Page 1 area 5A | Input / Output | 16.000 | 14 | C R W T |
| 118 | Page 1 area 5B | Output | 1.010 | 1 | C R T |
| 119 | Page 1 area 5C | Input | 5.001 | 1 | C W |
| 120 | Page 1 area 5D | Input | 5.001 | 1 | C W |
| 121 | Page 1 area 6A | Input / Output | 16.000 | 14 | C R W T |
| 122 | Page 1 area 6B | Output | 1.010 | 1 | C R T |
| 123 | Page 1 area 6C | Input | 5.001 | 1 | C W |
| 124 | Page 1 area 6D | Input | 5.001 | 1 | C W |
| 125-132 | Reserve | | | 4 | |
| 133 | Page 1 Rocker 1 Long-term | Output | 1.008 | 1 | C R W T |
| 134 | Page 1 Rocker 1 Short-term | Output | 1.010 | 1 | C R T |
| 135 | Page 1 Rocker 1 Position | Input | 5.001 | 1 | C R W T |
| 136 | Page 1 Rocker 1 Slat | Input | 5.001 | 1 | C R W T |
| 137 | Page 1 Rocker 1 Feedback | Input | 1.001 | 1 | C W |

| No. | Name | Function | DTP | Length in byte | Flags |
|---------|---------------------------------|----------|-------|----------------|---------|
| 138 | Page 1 Rocker 2 Long-term | Output | 1.008 | 1 | C R W T |
| 139 | Page 1 Rocker 2 Short-term | Output | 1.010 | 1 | C R T |
| 140 | Page 1 Rocker 2 Position | Input | 5.001 | 1 | C R W T |
| 141 | Page 1 Rocker 2 Slat | Input | 5.001 | 1 | C R W T |
| 142 | Page 1 Rocker 2 Feedback | Input | 1.001 | 1 | C W |
| 143 | Page 1 Rocker 3 Long-term | Output | 1.008 | 1 | C R W T |
| 144 | Page 1 Rocker 3 Short-term | Output | 1.010 | 1 | C R T |
| 145 | Page 1 Rocker 3 Position | Input | 5.001 | 1 | C R W T |
| 146 | Page 1 Rocker 3 Slat | Input | 5.001 | 1 | C R W T |
| 147 | Page 1 Rocker 3 Feedback | Input | 1.001 | 1 | C W |
| 148 | Page 1 rotary control value [R] | Output | 14.* | 4 | C R W T |
| 149 | Page 1 rotary control value [G] | Output | 5.001 | 1 | C R W T |
| 150 | Page 1 rotary control value [B] | Output | 5.001 | 1 | C R W T |
| 151-200 | Page 2 | | | | |
| 201-250 | Page 3 | | | | |
| 251-300 | Page 4 | | | | |
| 301-350 | Page 5 | | | | |
| 351-400 | Page 6 | | | | |
| 401-450 | Page 7 | | | | |
| 451-500 | Page 8 | | | | |
| 501-550 | Page 9 | | | | |
| 551-600 | Page 10 | | | | |

Automatic

| No. | Name | Function | DPT | Length in byte | Flags |
|-----|---|----------|-------|----------------|-------|
| 601 | Automatic inside temp. meas. value | Input | 9.001 | 2 | C W |
| 602 | Automatic inside humidity meas. value | Input | 9.007 | 2 | C W |
| 603 | Automatic CO2 meas. value in ppm | Input | 9.008 | 2 | C W |
| 604 | Automatic wind measuring value | Input | 9.005 | 2 | C W |
| 605 | Automatic rain | Input | 1.002 | 1 | C W |
| 606 | Automatic outdoor temperature measuring value | Input | 9.001 | 2 | C W |
| 607 | Automatic brightness measuring value | Input | 9.004 | 2 | C W |
| 608 | Automatic cooling status | Input | 1.001 | 1 | C W |
| 609 | Reserve | | | | |
| 610 | Reserve | | | | |

Objects automatic channels for shading, windows, ventilation or light

| No. Auto 1 | No. Auto 2 | No. Auto 3 | No. Auto 4 | No. Auto 5 | Name | Function | DPT | Flags |
|------------|------------|------------|------------|------------|-----------------------------------|----------|-------|-------|
| 611 | 646 | 681 | 716 | 751 | Reserve | | | |
| 612 | 647 | 682 | 717 | 752 | Reserve | | | |
| 613 | 648 | 683 | 718 | 753 | Automatic X Reset | Input | 1.001 | C W |
| 614 | 649 | 684 | 719 | 754 | Reserve | | | |
| 615 | 650 | 685 | 720 | 755 | Automatic X Block | Input | 1.001 | C W |
| 616 | 651 | 686 | 721 | 756 | Reserve | | | |
| 617 | 652 | 687 | 722 | 757 | Automatic X Safety | Output | 1.001 | C R T |
| 618 | 653 | 688 | 723 | 758 | Automatic X Precipitation warning | Output | 1.001 | C R T |
| 619 | 654 | 689 | 724 | 759 | Automatic X Wind warning | Output | 1.001 | C R T |
| 620 | 655 | 690 | 725 | 760 | Automatic X Frost warning | Output | 1.001 | C R T |
| 621 | 656 | 691 | 726 | 761 | Reserve | | | |
| 622 | 657 | 692 | 727 | 762 | Reserve | | | |
| 623 | 658 | 693 | 728 | 763 | Reserve | | | |
| 624 | 659 | 694 | 729 | 764 | Reserve | | | |

| No. Auto 1 | No. Auto 2 | No. Auto 3 | No. Auto 4 | No. Auto 5 | Name | Function | DPT | Flags |
|------------|------------|------------|------------|------------|---|----------|-------|-------|
| 625 | 660 | 695 | 730 | 765 | Automatic X Status indoor temperature block | Output | 1.001 | C R T |
| 626 | 661 | 696 | 731 | 766 | Automatic X Status outdoor temperature block | Output | 1.001 | C R T |
| 627 | 662 | 697 | 732 | 767 | Reserve | | | |
| 628 | 663 | 698 | 733 | 768 | Reserve | | | |
| 629 | 664 | 699 | 734 | 769 | Reserve | | | |
| 630 | 665 | 700 | 735 | 770 | Automatic X movement position - brightness | Output | 5.001 | C R T |
| 631 | 666 | 701 | 736 | 771 | Automatic X slat position | Output | 5.001 | C R T |
| 632 | 667 | 702 | 737 | 772 | Automatic X movement position - brightness feedback | Input | 5.001 | C W |
| 633 | 668 | 703 | 738 | 773 | Automatic X slat position feedback | Input | 5.001 | C W |
| 634-645 | 669-680 | 704-715 | 739-750 | 774-785 | Reserve | | | |

Objects automatic channels for temperature control

| No. Auto 1 | No. Auto 2 | No. Auto 3 | No. Auto 4 | No. Auto 5 | Name | Function | DPT | Flags |
|------------|------------|------------|------------|------------|--|----------------|-------|---------|
| 611 | 646 | 681 | 716 | 751 | Temp. controller: Eco-Standby HVAC 1 | Input | 1.003 | C W |
| 612 | 647 | 682 | 717 | 752 | Temp. controller: Comfort activation HVAC 2 | Input | 1.003 | C W |
| 613 | 648 | 683 | 718 | 753 | Reserve | | | |
| 614 | 649 | 684 | 719 | 754 | Temp. controller: Frost/heat activation | Input | 1.003 | C R W T |
| 615 | 650 | 685 | 720 | 755 | Temp. controller: Blocking object | Input | 1.003 | C R W T |
| 616 | 651 | 686 | 721 | 756 | Temp. controller: Current set point | Output | 9.001 | C R T |
| 617 | 652 | 687 | 722 | 757 | Temp. controller: Switching object (0:Heating 1:Cooling) | Input | 1.002 | C W |
| 618 | 653 | 688 | 723 | 758 | Temp. controller: Set point, comfort heating | Input / Output | 9.001 | C R W T |
| 619 | 654 | 689 | 724 | 759 | Temp. controller: Set point, night-time heating (1:+ 0:-) | Input | 1.002 | C W |
| 620 | 655 | 690 | 725 | 760 | Temp. controller: Reference value, comfort cooling | Input / Output | 9.001 | C R W T |
| 621 | 656 | 691 | 726 | 761 | Temp. controller: Reference value, comfort cooling (1:+ 0:-) | Input | 1.002 | C W |
| 622 | 657 | 692 | 727 | 762 | Temp. controller: Reference value, standby heating | Input / Output | 9.001 | C R W T |
| 623 | 658 | 693 | 728 | 763 | Temp. controller: Set point, standby heating (1:+ 0:-) | Input | 1.002 | C W |
| 624 | 659 | 694 | 729 | 764 | Temp. controller: Set point, Standby cooling | Input / Output | 9.001 | C R W T |

| No. Auto 1 | No. Auto 2 | No. Auto 3 | No. Auto 4 | No. Auto 5 | Name | Function | DPT | Flags |
|------------|------------|------------|------------|------------|---|----------------|-------|---------|
| 625 | 660 | 695 | 730 | 765 | Temp. controller: Set point, standby cooling(1:+ 0:-) | Input | 1.002 | C W |
| 626 | 661 | 696 | 731 | 766 | Temp. controller: Set point, eco heating | Input / Output | 9.001 | C R W T |
| 627 | 662 | 697 | 732 | 767 | Temp. controller: Set point, eco heating (1:+ 0:-) | Input | 1.002 | C W |
| 628 | 663 | 698 | 733 | 768 | Temp. controller: Set point, Eco cooling | Input / Output | 9.001 | C R W T |
| 629 | 664 | 699 | 734 | 769 | Temp. controller: Set point, eco cooling (1:+ 0:-) | Input | 1.002 | C W |
| 630 | 665 | 700 | 735 | 770 | Temp. controller: Control variable, heating (level 1) | Output | 5.001 | C R T |
| 631 | 666 | 701 | 736 | 771 | Temp. controller: Control variable, Heating (level 2) | Output | 5.001 | C R T |
| 632 | 667 | 702 | 737 | 772 | Temp. controller: Control variable, cooling level 1 | Output | 5.001 | C R T |
| 633 | 668 | 703 | 738 | 773 | Temp. controller: Control variable, Cooling (level 2) | Output | 5.001 | C R T |
| 634 | 669 | 704 | 739 | 774 | Temp. controller: Status – Heating 1 (1=ON 0=OFF) | Output | 1.002 | C R T |
| 635 | 670 | 705 | 740 | 775 | Temp. controller: Status – Heating 2 (1=ON 0=OFF) | Output | 1.002 | C R T |
| 636 | 671 | 706 | 741 | 776 | Temp. controller: Status – Cooling 1 (1=ON 0=OFF) | Output | 1.002 | C R T |
| 637 | 672 | 707 | 742 | 777 | Temp. controller: Status – Cooling 2 (1=ON 0=OFF) | Output | 1.002 | C R T |

| No. Auto 1 | No. Auto 2 | No. Auto 3 | No. Auto 4 | No. Auto 5 | Name | Function | DPT | Flags |
|------------|------------|------------|------------|------------|---|----------------|-------|---------|
| 638 | 673 | 708 | 743 | 778 | Temp. controller: Comfort extension time (in sec) | Input / Output | 7.005 | C R W T |
| 639 | 674 | 709 | 744 | 779 | Temp. controller: Comfort delay status | Input / Output | 1.002 | C R W T |
| 640-645 | 675-680 | 710-715 | 745-750 | 780-785 | Reserve | | | |

Miscellaneous

| No. | Name | Function | DPT | Length in byte | Flags |
|---------|----------------------------|----------------|--------|----------------|-------|
| 786-790 | Reserve | | | | |
| 791 | Period 1 Switching output | Output | 14.* | 4 | C R T |
| 792 | Period 2 Switching output | Output | 14.* | 4 | C R T |
| 793 | Period 3 Switching output | Output | 14.* | 4 | C R T |
| 794 | Period 4 Switching output | Output | 14.* | 4 | C R T |
| 795 | Period 5 Switching output | Output | 14.* | 4 | C R T |
| 796 | Period 6 Switching output | Output | 14.* | 4 | C R T |
| 797 | Period 7 Switching output | Output | 14.* | 4 | C R T |
| 798 | Period 8 Switching output | Output | 14.* | 4 | C R T |
| 799 | Period 9 Switching output | Output | 14.* | 4 | C R T |
| 800 | Period 10 Switching output | Output | 14.* | 4 | C R T |
| 801 | Period 11 Switching output | Output | 14.* | 4 | C R T |
| 802 | Period 12 Switching output | Output | 14.* | 4 | C R T |
| 803 | Period 13 Switching output | Output | 14.* | 4 | C R T |
| 804 | Period 14 Switching output | Output | 14.* | 4 | C R T |
| 805 | Period 15 Switching output | Output | 14.* | 4 | C R T |
| 806 | Period 16 Switching output | Output | 14.* | 4 | C R T |
| 807-819 | Reserve | | | | |
| 820 | Load / save scene | Input | 18.001 | 1 | C W |
| 821 | Scene object 1 | Input / Output | 9.* | 4 | C R T |
| 822 | Scene object 2 | Input / Output | 9.* | 4 | C R T |
| 823 | Scene object 3 | Input / Output | 9.* | 4 | C R T |
| 824 | Scene object 4 | Input / Output | 9.* | 4 | C R T |
| 825 | Scene object 5 | Input / Output | 9.* | 4 | C R T |
| 826 | Scene object 6 | Input / Output | 9.* | 4 | C R T |
| 827 | Scene object 7 | Input / Output | 9.* | 4 | C R T |

| No. | Name | Function | DPT | Length in byte | Flags |
|---------|---------------------------|----------------|--------|----------------|---------|
| 828 | Scene object 8 | Input / Output | 9.* | 4 | C R T |
| 829 | Scene object 9 | Input / Output | 9.* | 4 | C R T |
| 830 | Scene object 10 | Input / Output | 9.* | 4 | C R T |
| 831 | Scene object 11 | Input / Output | 9.* | 4 | C R T |
| 832 | Scene object 12 | Input / Output | 9.* | 4 | C R T |
| 833 | Scene object 13 | Input / Output | 9.* | 4 | C R T |
| 834 | Scene object 14 | Input / Output | 9.* | 4 | C R T |
| 835 | Scene object 15 | Input / Output | 9.* | 4 | C R T |
| 836 | Scene object 16 | Input / Output | 9.* | 4 | C R T |
| 837-850 | Reserve | | | | |
| 851 | Button 1 Extended | Output | 1.008 | 1 | C R T |
| 852 | Button 1 Brief | Output | 1.010 | 1 | C R T |
| 853 | Switch button 1 on / off | Input / Output | 1.001 | 1 | C R W T |
| 854 | Button 1 Relative dimming | Input / Output | 3.007 | 1 | C R W T |
| 855 | Button 1 - 8-bit encoder | Output | 5* | 1 | C R T |
| 856 | Button 1 - 16-bit encoder | Output | 9* | 2 | C R T |
| 857 | Button 1 Scene | Output | 18.001 | 1 | C R T |
| 858 | Button 2 Extended | Output | 1.008 | 1 | C R T |
| 859 | Button 2 Brief | Output | 1.010 | 1 | C R T |
| 860 | Switch button 2 on / off | Input / Output | 1.001 | 1 | C R W T |
| 861 | Button 2 Relative dimming | Input / Output | 3.007 | 1 | C R W T |
| 862 | Button 2 - 8-bit encoder | Output | 5* | 1 | C R T |
| 863 | Button 2 - 16-bit encoder | Output | 9* | 2 | C R T |
| 864 | Button 2 Scene | Output | 18.001 | 1 | C R T |
| 865 | Button 3 Extended | Output | 1.008 | 1 | C R T |
| 866 | Button 3 Brief | Output | 1.010 | 1 | C R T |
| 867 | Switch button 3 on / off | Input / Output | 1.001 | 1 | C R W T |
| 868 | Button 3 Relative dimming | Input / Output | 3.007 | 1 | C R W T |
| 869 | Button 3 - 8-bit encoder | Output | 5* | 1 | C R T |
| 870 | Button 3 - 16-bit encoder | Output | 9* | 2 | C R T |
| 871 | Button 3 Scene | Output | 18.001 | 1 | C R T |
| 872 | Button 4 Extended | Output | 1.008 | 1 | C R T |
| 873 | Button 4 Brief | Output | 1.010 | 1 | C R T |

| No. | Name | Function | DPT | Length in byte | Flags |
|---------|---|----------------|--------|----------------|---------|
| 874 | Switch button 4 on / off | Input / Output | 1.001 | 1 | C R W T |
| 875 | Button 4 Relative dimming | Input / Output | 3.007 | 1 | C R W T |
| 876 | Button 4 - 8-bit encoder | Output | 5* | 1 | C R T |
| 877 | Button 4 - 16-bit encoder | Output | 9* | 2 | C R T |
| 878 | Button 4 Scene | Output | 18.001 | 1 | C R T |
| 879-890 | Reserve | | | | |
| 891 | Temp_sensor_1 measuring value | Output | 9.001 | 2 | C R T |
| 892 | Temp_sensor_1 external measuring value | Input | 9.001 | 2 | C W |
| 893 | Temp_sensor_1 overall measuring value | Output | 9.001 | 2 | C R T |
| 894 | Temp_sensor_1_malfunction | Output | 1.001 | 1 | C R T |
| 895 | Temp_sensor_2 measuring value | Output | 9.001 | 2 | C R T |
| 896 | Temp_sensor_2 external measuring value | Input | 9.001 | 2 | C W |
| 897 | Temp_sensor_2 overall measuring value | Output | 9.001 | 2 | C R T |
| 898 | Temp_sensor_2_malfunction | Output | 1.001 | 1 | C R T |
| 899 | Temp_sensor_3 measuring value | Output | 9.001 | 2 | C R T |
| 900 | Temp_sensor_3 external measuring value | Input | 9.001 | 2 | C W |
| 901 | Temp_sensor_3 overall measuring value | Output | 9.001 | 2 | C R T |
| 902 | Temp_sensor_3_malfunction | Output | 1.001 | 1 | C R T |
| 903 | Temp_sensor_4 measuring value | Output | 9.001 | 2 | C R T |
| 904 | Temp_sensor_4 external measuring value | Input | 9.001 | 2 | C W |
| 905 | Temp_sensor_4 overall measuring value | Output | 9.001 | 2 | C R T |
| 906 | Temp_sensor_4 malfunction | Output | 1.001 | 1 | C R T |
| 907-920 | Reserve | | | | |
| 921 | Temp. threshold value 1 measuring value | Input | 9.001 | 2 | C W |
| 922 | Temp. threshold value 1: Absolute value | Input / Output | 9.001 | 2 | C R W T |

| No. | Name | Function | DPT | Length in byte | Flags |
|-----|--|----------------|-------|----------------|---------|
| 923 | Temp. threshold value 1: (1:+ 0:-) | Input | 1.001 | 1 | C W |
| 924 | Temp. threshold value 1: Switching delay from 0 to 1 | Input | 7.005 | 2 | C W |
| 925 | Temp. threshold value 1: Switching delay from 1 to 0 | Input | 7.005 | 2 | C W |
| 926 | Temp. threshold value 1: Switching output | Output | 1.001 | 1 | C R T |
| 927 | Temp. threshold value 1: Switching output block | Input | 1.002 | 1 | C W |
| 928 | Temp. threshold value 2 measuring value | Input | 9.001 | 2 | C W |
| 929 | Temp. threshold value 2: Absolute value | Input / Output | 9.001 | 2 | C R W T |
| 930 | Temp. threshold value 2: (1:+ 0:-) | Input | 1.001 | 1 | C W |
| 931 | Temp. threshold value 2: Switching delay from 0 to 1 | Input | 7.005 | 2 | C W |
| 932 | Temp. threshold value 2: Switching delay from 1 to 0 | Input | 7.005 | 2 | C W |
| 933 | Temp. threshold value 2: Switching output | Output | 1.001 | 1 | C R T |
| 934 | Temp. threshold value 2: Switching output block | Input | 1.002 | 1 | C W |
| 935 | Temp. threshold value 3: Absolute value | Input / Output | 9.001 | 2 | C R W T |
| 936 | Temp. threshold value 3 measuring value | Input | 9.001 | 2 | C W |
| 937 | Temp. threshold value 3: (1:+ 0:-) | Input | 1.001 | 1 | C W |
| 938 | Temp. threshold value 3: Switching delay from 0 to 1 | Input | 7.005 | 2 | C W |
| 939 | Temp. threshold value 3: Switching delay from 1 to 0 | Input | 7.005 | 2 | C W |
| 940 | Temp. threshold value 3: Switching output | Output | 1.001 | 1 | C R T |
| 941 | Temp. threshold value 3: Switching output block | Input | 1.002 | 1 | C W |
| 942 | Temp. threshold value 4 measuring value | Input | 9.001 | 2 | C W |
| 943 | Temp. threshold value 4: Absolute value | Input / Output | 9.001 | 2 | C R W T |

| No. | Name | Function | DPT | Length in byte | Flags |
|---------|--|----------|-------|----------------|-------|
| 944 | Temp. threshold value 4: (1:+ 0:-) | Input | 1.001 | 1 | C W |
| 945 | Temp. threshold value 4: Switching delay from 0 to 1 | Input | 7.005 | 2 | C W |
| 946 | Temp. threshold value 4: Switching delay from 1 to 0 | Input | 7.005 | 2 | C W |
| 947 | Temp. threshold value 4: Switching output | Output | 1.001 | 1 | C R T |
| 948 | Temp. threshold value 4: Switching output block | Input | 1.002 | 1 | C W |
| 949-970 | Reserve | | | | |
| 971 | Logic input 1 | Input | 1.002 | 1 | C W |
| 972 | Logic input 2 | Input | 1.002 | 1 | C W |
| 973 | Logic input 3 | Input | 1.002 | 1 | C W |
| 974 | Logic input 4 | Input | 1.002 | 1 | C W |
| 975 | Logic input 5 | Input | 1.002 | 1 | C W |
| 976 | Logic input 6 | Input | 1.002 | 1 | C W |
| 977 | Logic input 7 | Input | 1.002 | 1 | C W |
| 978 | Logic input 8 | Input | 1.002 | 1 | C W |
| 979 | Logic input 9 | Input | 1.002 | 1 | C W |
| 980 | Logic input 10 | Input | 1.002 | 1 | C W |
| 981 | Logic input 11 | Input | 1.002 | 1 | C W |
| 982 | Logic input 12 | Input | 1.002 | 1 | C W |
| 983 | Logic input 13 | Input | 1.002 | 1 | C W |
| 984 | Logic input 14 | Input | 1.002 | 1 | C W |
| 985 | Logic input 15 | Input | 1.002 | 1 | C W |
| 986 | Logic input 16 | Input | 1.002 | 1 | C W |
| 987-990 | Reserve | | | | |
| 991 | AND Logic 1: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 992 | AND Logic 1: 8-bit output A | Output | 5.010 | 1 | C R T |
| 993 | AND Logic 1: 8-bit output B | Output | 5.010 | 1 | C R T |
| 994 | AND Logic 1: Block | Input | 1.001 | 1 | C W |
| 995 | AND Logic 2: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 996 | AND Logic 2: 8-bit output A | Output | 5.010 | 1 | C R T |
| 997 | AND Logic 2: 8-bit output B | Output | 5.010 | 1 | C R T |
| 998 | AND Logic 2: Block | Input | 1.001 | 1 | C W |

| No. | Name | Function | DPT | Length in byte | Flags |
|------|-------------------------------------|----------|-------|----------------|-------|
| 999 | AND Logic 3: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1000 | AND Logic 3: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1001 | AND Logic 3: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1002 | AND Logic 3: Block | Input | 1.001 | 1 | C W |
| 1003 | AND Logic 4: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1004 | AND Logic 4: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1005 | AND Logic 4: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1006 | AND Logic 4: Block | Input | 1.001 | 1 | C W |
| 1007 | OR Logic 1: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1008 | OR Logic 1: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1009 | OR Logic 1: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1010 | OR Logic 1: Block | Input | 1.001 | 1 | C W |
| 1011 | OR Logic 2: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1012 | OR Logic 2: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1013 | OR Logic 2: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1014 | OR Logic 2: Block | Input | 1.001 | 1 | C W |
| 1015 | OR Logic 3: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1016 | OR Logic 3: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1017 | OR Logic 3: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1018 | OR Logic 3: Block | Input | 1.001 | 1 | C W |
| 1019 | OR Logic 4: 1-bit switching output | Output | 1.002 | 1 | C R T |
| 1020 | OR Logic 4: 8-bit output A | Output | 5.010 | 1 | C R T |
| 1021 | OR Logic 4: 8-bit output B | Output | 5.010 | 1 | C R T |
| 1022 | OR Logic 4: Block | Input | 1.001 | 1 | C W |

2. System settings via ETS

Before the system can be used, you have to have the basic configuration set up by the integrator in the KNX software ETC. Afterwards, some system settings may be modified directly on the display.

2.1. Basic configuration in the ETS

First, make some basic settings for data transfer.

| | |
|---|---|
| Transmission delay after power-up and programming | <u>5 s</u> • ... • 2 h |
| Maximum message rate | <ul style="list-style-type: none"> • 1 message per second • ... • <u>10 messages per second</u> • ... • 20 messages per second |

The integrated brightness sensor of the **Display Corlo Touch KNX** distinguishes between "day" and "night". This is used, e. g. for adapting the display brightness. However, the respective object no. 12 may also be transmitted to the bus and used for setting up AND links (e. g. night AND object in the range of the proximity sensor).

| | |
|--|---|
| Object "Room brightness status" transmitting <i>Object no. 12</i> | <ul style="list-style-type: none"> • <u>not</u> • 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 |
|--|---|

The **Display Corlo Touch KNX** queries the date and time from the bus via object no. 10. As soon as the data is available on the bus, the query cycle is reset, regardless of whether the query was generated autonomously or arrived from another bus member. The query cycle of several cycles is therefore usually set to the same value.

| | |
|---|-------------------------|
| Transmission cycle of the object "Date and time query" (in s) <i>Object no. 10</i> | [50...420; <u>120</u>] |
|---|-------------------------|

2.2. System language

The language used for the display can be changed via an object, directly on the display or in the ETS menu.

ETS: System language

Currently, five languages are available in the ETS: German, English, French, Italian and Spanish. Polish can only be activated via the display or the object control (object value 28780).

Please refer to the list of languages and updated software versions on the web.

Object control

In case of language selection via an object, i.e. the bus, the object values then correspond to the KNX standard for language changes. The object no. 3 "System language selection" is input and output simultaneously, and thus may both receive a switching command or transmit the status to the bus autonomously.

The language object may be activated in the ETS.


| | |
|-------------------------|---|
| Use object for language | <ul style="list-style-type: none"> • <u>No</u> (no language change via object) • Yes (language change via object activated) |
|-------------------------|---|

Adaptation on the display

The language settings on the display is done via the menu

Settings > system > system language

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *System language*, Page 52

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The language menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

| | |
|--|--|
| Language <i>when using the language object:</i> (valid till 1st communication) | <ul style="list-style-type: none"> • ... • English [en] object value 25966 • ... • German [de] object value 25701 • ... |
|--|--|

2.3. Editable text language

Individually entered text can be saved in several languages. The displayed language can be changed via an object, on the display or in the ETS menu.

ETS: Select editable text language

Object control

In case of language selection via an object, i.e. the bus, use the object table from the chapter "System language". The object no. 4 "Editable text language selection" is input and output simultaneously, and thus may both receive a switching command or transmit the status to the bus autonomously.

The language object may be activated in the ETS.

| | |
|-------------------------|---|
| Use object for language | <ul style="list-style-type: none"> • <u>No</u> (no language change via object) • Yes (language change via object activated) |
|-------------------------|---|

Adaptation on the display

The language settings on the display is done via the menu

Settings > system > editable text language

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Editable text language*, Page 53

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The language menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

| | |
|--|--------------------|
| Language <i>when using the language object:</i> (valid till 1st communication) | • Languages 1...-6 |
|--|--------------------|

Six languages may be pre-set. The parameter table "language settings" contains the languages allocated to the six locations. The object values correspond to the data point types for language switches in the KNX bus.

| | |
|------------------|---|
| Languages 1...-6 | <ul style="list-style-type: none"> • ... • German [de] object value 25701 • ... • English [en] object value 25966 • ... • French [fr] object value 26226 • ... |
|------------------|---|

2.4. Display

Display settings can be modified via objects, on the display or in the ETS menu.

ETS: Display

| | |
|------------------------|--------------------------------------|
| Lock time for cleaning | 5 s • ... • <u>5 min</u> • ... • 2 h |
|------------------------|--------------------------------------|

The touch screen can be temporarily or permanently blocked using object no. 15 "touch lock". Use the "cleaning mode" for cleaning the clean. It is activated via object

no. 16 "touch lock for cleaning" or the display button "settings > cleaning mode". The touch function is then blocked for the time period set here.

Object control

For the display settings via objects, i.e. via the bus, objects 14-18 and 21 are available.

The display object may be activated in the ETS. The following parameters only appear when the objects are used ("yes").

| | |
|---|----------------------|
| Use objects for display | • <u>No</u> • Yes |
| Touch blocked at value <i>Object no. 15 "touch lock"</i> | <u>1</u> • 0 |
| value before 1st communication | 1 • <u>0</u> |


The object no. 14 "display screen selection" allows the display to be switched over to any preconfigured display screen. After five minutes, however, the display switches back to the start screen if this is the generally set option (see parameter "if the display is not touched for 5 minutes, the display switches ..." below).

Adaptation on the display

The screen settings on the display are modified via the menu

Settings > system > screen

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Display*, Page 53

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!


The screen menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

The **screen brightness** can be set to a fixed value or adapt to the room luminosity automatically (using the internal brightness sensor) or controlled via object no. 21 "screen illumination brightness in %".

The **automatic switch off** darkens the display after the pre-set waiting time. The deactivation can also be linked to the surrounding brightness via the setting "if room is dark".

| | |
|--|---|
| Brightness <i>Object no. 21 "screen illumination"</i> <i>Brightness in %</i> | <ul style="list-style-type: none"> • has a fixed value • is adjusted to ambient light • controlled by means of an object (<i>only if display objects are used</i>) |
| (start) value in % <i>only for fixed value/object control</i> | [0...100; <u>100</u>] |
| Automatic shut-down <i>not when control is executed via object</i> | <ul style="list-style-type: none"> • On • Off • <u>If Room Dark</u> |
| Waiting time | 5 s • ... • <u>1 min</u> • ... • 2 h |

The **start display** determines which screen is shown on the display when you press the **house button**  (and after a reset). In addition, you can set the options for what is to happen if no setting is entered on the display for 5 minutes.

| | |
|--|--|
| Start display | <ul style="list-style-type: none"> • Screen 1 • ... • Screen 10 |
| If the display is not touched for 5 minutes, the display | <ul style="list-style-type: none"> • doesn't switch • switches to start screen |

Independently of the automatic shut-down, you may select an individual **screen saver**. This screen saver is activated after a period of waiting and may also be linked to the proximity sensor. This means that the display is reactivated upon proximity.

| | |
|---|--|
| Use screen saver <i>Object no. 17 "screen saver"</i> | Yes • <u>No</u> |
| Waiting time | 5 s • <u>10 s</u> • ... • 2 h |
| Proximity sensor action: | |
| on approach Screen saver OFF? | <u>Yes</u> • No |
| Screen saver type | <ul style="list-style-type: none"> • Screen OFF • Analogue clock • Digital clock • Image from SD Card • Slide show from SD Card |
| (start) image number <i>Object no. 18 "Image selection from SD card"</i> | [1...65000; <u>1</u>] |

The screen saver may be modified via objects no 17 "screen saver" and no. 18 "image selection from SD card" via the bus. The object no. 17 is input and output

simultaneously, and thus may both receive a command or transmit the status to the bus autonomously.

The images for the screen saver are loaded from the SD card. The individual images must be saved to a folder called "diafix", and the images for a slide show in a folder called "diashow". Please refer to the chapter

 *Images for screensaver*, Page 15

2.5. Ambient lighting

The **Display Corlo Touch KNX** has LEDs installed which are directed to the side from behind the frame. This ambient lighting can be adjusted in terms of colour and brightness. Settings may be made via objects, on the display or on the ETS menu.

ETS: ambient lighting

Object control

For the settings via objects, i.e. via the bus, objects 22-26 are available.

The ambient lighting objects may be activated in the ETS. The following parameter only appears when the objects are used ("yes").


| | |
|----------------------------------|--|
| Use objects for ambient lighting | <ul style="list-style-type: none"> • <u>No</u> • Yes |
| RGB shares are set via | <ul style="list-style-type: none"> • an object (1x 3 byte, DTP 232.600) • three objects (3x 1 byte, DTP 5.001) |

Adaptation on the display

The settings on the display are modified via the menu

Settings > system > ambient lighting

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Ambient lighting*, Page 59

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The ambient lighting menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

The illumination **brightness** may be set to a fixed value, or controlled in % via object no. 22 "ambient lighting brightness in %", or automatically adapt to the display, the

illuminated logo or the brightness of the room. The internal brightness sensor is used for controlling the ambient lighting in correlation with room brightness.

The **automatic shut down** switches the ambient lighting off after the pre-set waiting time. The deactivation can also be linked to the surrounding brightness via the setting "if room is dark".

| | |
|---|---|
| Brightness <i>Object no. 22 "ambient lighting"</i> <i>Brightness in %</i> | <ul style="list-style-type: none"> • <u>adjust to display brightness</u> • adjust to logo brightness (see logo illumination) • adjust to room brightness • has a fixed value • controlled by means of an object (<i>only if ambient lighting objects are used</i>) |
| (start) value in % <i>only for fixed value/object control</i> | 0...100; <u>100</u> |
| Automatic shut-down <i>not when settings are made via objects</i> | <ul style="list-style-type: none"> • On • Off • <u>If Room Dark</u> |
| Waiting time | 5 s • ... • <u>1 min</u> • ... • 2 h |

The **colour** of the lighting can be set to a fixed value, be controlled via objects 23-26 or automatically adapt to the illuminated logo. The colour is mixed from the RGB range, i.e. the percentage of red, green and blue light is determined.

| | |
|---|--|
| Colour <i>Objects no. 23-25 or no. 26)</i> | <ul style="list-style-type: none"> • adjust to logo lighting (see logo illumination) • can be set via objects (<i>only if ambient lighting objects are used</i>) • <u>has a fixed setting</u> |
| Red in % | 0...100; <u>100</u> |
| Green in % | 0...100; <u>100</u> |
| Blue in % | 0...100; <u>100</u> |

The colour can be modified via objects no. 23-25 "ambient lighting shares red/green/blue in %" or no. 26 "ambient lighting RGB" via the bus (depending on the parameter setting "RGB shares are set via ..."). The objects are input and output simultaneously, and thus may both receive a command or transmit the status to the bus autonomously. This means that, for example, the colours of several illuminations in a building may be controlled by a "master".

2.6. Logo illumination

This setting may only be made if there is a logo engraved above the display (customizing option). If not, leave the setting at the standard setting "fixed value = 0%".

The logo illumination can be adjusted in terms of colour and brightness. Settings may be made via objects, on the display or on the ETS menu.

ETS: Logo illumination

Object control

For the settings via objects, i.e. via the bus, objects 29-33 are available.

The logo illumination objects may be activated in the ETS. The following parameter only appears when the objects are used ("yes").


| | |
|-----------------------------------|--|
| Use objects for logo illumination | <ul style="list-style-type: none"> • <u>No</u> • Yes |
| RGB shares are set via | <ul style="list-style-type: none"> • an object (1x 3 byte, DTP 232.600) • three objects (3x 1 byte, DTP 5.001) |

Adaptation on the display

The settings on the display are modified via the menu

Settings > system > logo illumination

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Logo illumination*, Page 63

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The logo illumination menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

The illumination **brightness** may be set to a fixed value, or controlled in % via object no. 29 "logo illumination brightness in %", or automatically adapt to the display, the ambient lighting or the brightness of the room. The internal brightness sensor is used for controlling the ambient lighting in correlation with room brightness.

This **automatic shut-down** switches off the logo illumination after the pre-set waiting time. The deactivation can also be linked to the surrounding brightness via the setting "if room is dark".

| | |
|--|---|
| Brightness <i>Object no. 29 "Logo illumination brightness in %"</i> | <ul style="list-style-type: none"> • adjust to display brightness • adjust to ambient brightness (see ambient lighting) • adjust to room brightness • <u>has a fixed value</u> • can be set via objects <i>(only if ambient lighting objects are used)</i> |
| (start) value in % <i>only for fixed value/object control</i> | 0...100; <u>0</u> |

| | |
|--|---|
| Automatic shut-down <i>not when settings are made via objects</i> | <ul style="list-style-type: none"> • On • Off • If Room Dark |
| Waiting time | 5 s • ... • <u>1 min</u> • ... • 2 h |

The **colour** of the lighting can be set to a fixed value, be controlled via objects 30-33 or automatically adapt to the ambient lighting. The colour is mixed from the RGB range, i.e. the percentage of red, green and blue light is determined.

| | |
|--|---|
| Colour <i>Objects no. 30-32 or no. 33</i> | <ul style="list-style-type: none"> • <u>adjust to ambient lighting</u> (see ambient lighting) • can be set via objects (<i>only if logo illumination objects are used</i>) • has a fixed setting |
| Red in % | 0...100; <u>100</u> |
| Green in % | 0...100; <u>100</u> |
| Blue in % | 0...100; <u>100</u> |

The colour can be modified via objects no. 30-32 "logo illumination shares red/green/blue in %" or no. 33 "logo illumination RGB" via the bus (depending on the parameter setting "RGB shares are set via ..."). The objects are input and output simultaneously, and thus may both receive a command or transmit the status to the bus autonomously. This means that, for example, the colours of several illuminations in a building may be controlled by a "master".

2.7. Button tone

The **Display Corlo Touch KNX** may emit a sound if a button on the display is touched. The button tone can be changed via an object, on the display or in the ETS menu.

ETS: button tone

Object control

Use object no. 34 "button tone" for the setting via an object, i.e. via the bus. It is input and output simultaneously, and thus may both receive a command or transmit the status to the bus autonomously.

The button tone may be activated in the ETS. The following parameter only appears when objects are used ("yes").


| | |
|---|--|
| Use object for button tone | <ul style="list-style-type: none"> • <u>No</u> (no object control) • Yes (switch via object activated) |
| Value for button tone active <i>only if object is used</i> | 0 • <u>1</u> |

Adaptation on the display

The settings on the display are modified via the menu

- Settings > system > button tone

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Button tone*, Page 68

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The button tone menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
| Activate button tone <i>or</i> Button tone active before 1st communication | Yes • <u>No</u> |

2.8. Proximity sensor

The proximity sensor of the **Corlo Touch KNX** registers when an object moves into the capture range or leaves this range. Consequently, you can send object no. 38 when approaching the display and object no. 39 when leaving the vicinity of the display.

The object functions for the proximity sensor can only be set via the ETS.

Each of the objects can be configured as a bit object and send the value 1 or 0, or switch between 0 and 1 (e.g. to switch the light). Alternatively, the object may be configured as a byte object and send a value between 0 and 255, or a percentage value (e.g. for dimming lights, approaching a shade position or recalling a scene).

| | |
|--|--|
| Use objects for proximity sensor | <ul style="list-style-type: none"> • <u>No</u> (do not use proximity sensor to transmit objects) • Yes (activate objects 38 and 38) |
| on approach <i>Object no. 38 "proximity sensor approaching"</i> or on leaving <i>Object no. 39 "proximity sensor distancing"</i> | <ul style="list-style-type: none"> • nothing will be sent • bit object (value 1) will be transmitted • bit object (value 0) will be transmitted • bit object will be switched • byte object (value 0...255) will be transmitted • byte object (value 0...100%) will be transmitted |

| | |
|--|---|
| Transmission delay in s (is only transmitted if byte object is transmitted) | 0...240; <u>2</u> |
| Value only upon transmission | 0...255; <u>255</u> or 0...100; <u>100</u> |

2.9. Alarm

The six alarm functions of the **Corlo Touch KNX** show messages in the display. At the same time, the display may flash, and an alarm tone emitted. Alarm messages may be acknowledged with the button shown on the display or via the bus. For this purpose, decide whether to use a 1 or a 0 for the acknowledgement.


The alarm functions use objects no. 56-67 (per alarm channel there is one input object and one input/output object for acknowledgement). They can be modified on the display or in the ETS menu.

ETS: Alarm

The settings **on the display** are modified via the menu

Settings > system > alarm

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Alarm*, Page 69


Select "Transmit the following parameters: yes" when making modifications **via the ETS** so render the modifications for access codes and alarm settings valid. Previous settings are then overwritten -including modifications done on the display!

The alarm menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---|---|
| Use alarm | <ul style="list-style-type: none"> • <u>No</u> (no alarm functions, all subsequent parameters hidden) • Yes (alarm object active) |
| Object value for alarm acknowledgement | 0 • <u>1</u> |
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
| Alarm action for inputs 1...6: | |
| Flashing back lighting (is spelt without capitals in the ETS!) | <u>No</u> • Yes |
| Alarm sound | <u>No</u> • Yes |

| | |
|--|--|
| Alarm symbol | <ul style="list-style-type: none"> • Symbol 1...254, For a list of symbols please refer to chapter ... • Image selection |
| Image number <i>Only for image selection for alarm symbol</i> | 1...65535; <u>1</u> |

If the setting "alarm symbol: image selection" is activated, an image is loaded from the SD card. The image must be saved to a folder called "festbilder". Please refer to the chapter

 *Images for screensaver, Page 15*

| | |
|-------------------------------|---|
| Alarm text Languages 1...6 | [free text] <i>An individual text may be entered for each language</i> |
|-------------------------------|---|

2.10. Weekly timer

16 periods may be defined on the weekly timer of the **Corlo Touch KNX**. Those periods are then allocated to the internal automatic functions such as, e.g. the timed closure of blinds. The respective period objects (no. 791 to 806) can be configured as inputs or outputs, i.d. send to the bus (timer via **Corlo Touch KNX**, also for other bus members) or be switched from there (timer function via an external device). If several displays are used in the system, the timer settings may be done on a device transmitting the period objects from the output. The others then copy the time switch command (input).

Periods must be pre-set in the ETC menu "weekly timer: period". Periods configured as outputs may also be modified on the display.

ETS: Weekly timer


First, activate the periods to be set in the ETS. Sub menus for the activated periods will appear.

| | |
|----------------------|-----------------|
| Use periods 1 ... 16 | Yes • <u>No</u> |
|----------------------|-----------------|

The settings **on the display** are modified via the menu.

Settings > system > timer

The menu may be secured with an access code (set up in the ETS).

 System settings via touch display > *Timer, Page 71*

2.10.1.Periods 1 ... 16

Now select whether the period is an input or an output for the activated periods of the weekly timer (see above). Define the transmission behaviour for outputs.

ETS: Weekly timer > periods 1...16

| | |
|---|---|
| Period | <ul style="list-style-type: none"> • <u>is adjustable</u> (period object is output) (period may also be set on the display) • can be switched (time period object is input) (external time control) |
| Period output transmits <i>only if adjustable/output</i> | <ul style="list-style-type: none"> • <u>not</u> • 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 |
| cycle <i>only if output transmits periodically</i> | 5 s • ... • <u>1 min</u> • ... • 2 h |

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display! The timer menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
| Name Languages 1...6 | [free text] <i>An individual text may be entered for each language</i> |

If the period can be switched, i.e. is controlled via the bus by an external timer, no other parameters are available. In case of an **adjustable period (period object is output)** you can now set the time:

| | |
|-------------------|-----------------|
| Start | |
| Hour | 0...23 |
| Minute | 0...59 |
| End | |
| Hour | 0...23 |
| Minute | 0...59 |
| Use weekday | |
| Monday ... Friday | Yes • <u>No</u> |

2.11. Alarm

The **Display Corlo Touch KNX** may trigger a wake-up call with a sound alarm and flashing display at a pre-set time. At the same time, the display shows the time and a button to switch the alarm off.

The wake-up call function of the **Corlo Touch KNX** can be changed via an object, on the display or in the ETS menu.

ETS: alarm clock

Object control

For the settings via objects, i.e. via the bus, objects 80-84 are available. The objects are input and output simultaneously, and thus may both receive a status change or transmit the status to the bus autonomously. This means that the alarm clock may also be activated, switched or set to snooze from, for example, a different location in the building.

Object no. 81 sends or receives the wake-up time. This allows the alarm clock to be set from another display as well.

Object no. 82 "Alarm clock warning status" can be configured as a bit object and transmit the value 1 or 0 (e.g. to switch the light). Alternatively, the object may be configured as a byte object and send a value between 0 and 255, or a percentage value (e.g. for dimming lights, approaching a shade position or recalling a scene).

The alarm clock objects may be activated in the ETS. The following parameters only appear when the objects are used ("yes").


| | |
|--|--|
| Use object for alarm clock | <ul style="list-style-type: none"> • <u>No</u> • Yes |
| Object value for alarm activation <i>Object no. 80 "alarm clock activation"</i> | 0 • <u>1</u> |
| Object value for alarm acknowledgement <i>Object no. 83 "alarm clock acknowledgement"</i> | 0 • <u>1</u> |
| Object value for alarm repeat <i>Object no. 84 "alarm clock warning repetition"</i> | 0 • <u>1</u> |
| Alarm action <i>Object no. 82 "alarm clock warning status"</i> | <ul style="list-style-type: none"> • <u>transmit nothing</u> • transmit bit object (value 1) • transmit bit object (value 0) • transmit byte object (value 0...255) • transmit byte object (value 0...100%) |
| Value <i>only for alarm clock action byte object</i> | 0...255; <u>255</u> or 0...100; <u>100</u> |

Adaptation on the display

The settings on the display are modified via the menu

Settings > system > alarm clock

and can be secured with an access code (set up in the ETS).

 System settings via touch display > *Alarm*, Page 72

Modification via ETS

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

The alarm clock menu on the display can be secured with an access code that is determined (or deleted) in the ETS.

| | |
|--|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
| Alarm time hour | 0...23 |
| Alarm time minute | 0...59 |
| Alarm duration | 5 s • ... • <u>30 min</u> • ... • 2 h • until acknowledgement |
| Alarm repetition cycle in minutes (0 = no repetition) | 0...30; <u>5</u> |
| Use alarm tone | <u>Yes</u> • No |
| Display lighting flashes on alarm | <u>Yes</u> • No |

2.12. Service

If settings made on the display are to be cancelled, you may do so **on the display** in the menu Settings > system > service" by selecting the button "reset to last ETS download".

 System settings via touch display > Service, Page 76

The reset to ETS download may be protected with a code. Select "Transmit the following parameters: Yes" in the ETS to modify the code.

| | |
|---------------------------------------|---|
| Transfer the following parameters | Yes • <u>No</u> |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |


3. System settings via touch display

Before the system can be used, you have to have the basic configuration set up by the integrator in the KNX software ETC. Afterwards, some system settings may be modified directly on the display:


- System language
- Editable text language
- Display
- Ambient lighting
- Log lighting
- Button tone
- Alarm
- Timer
- Alarm
- Service


You can call up the system settings via the tool symbol on the display screens.

The symbol can be set to "visible" or "hidden" when the display screens are adapted. If you want to allow system modifications on the display, the symbol must be shown on at least one screen.

 *Setting up screens in the ETS, Page 79*




The **skip back arrow**  takes you back to the previous menu screen without saving.

The **house button**  takes you back to the standard screen without saving.

3.1. Access codes for display menus

The ETS may be used to determine access codes for the individual menus. Before the menu is displayed, the code has to be entered on a keypad.




The code may be modified or deleted with the tool button  on the keypad screen. The currently active code must be entered in order for this to take effect.

Saving an empty field means: No further code query.

All codes may be reset to the level of the last ETS download via the menu.

Settings > system > service > reset access code

 *Reset the access code, Page 75*


Use the bus to reset all codes using object no. 5 "access code reset".

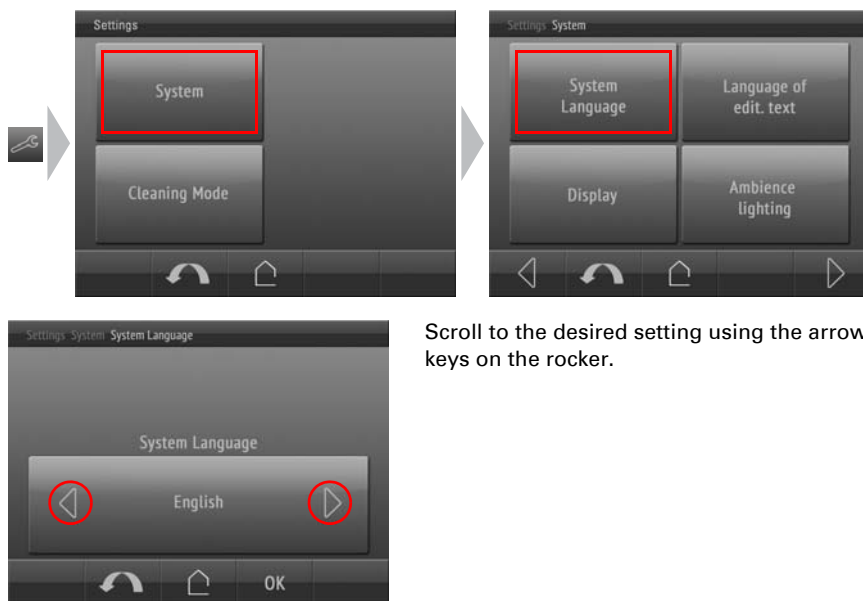
3.2. System language

The language used for the settings menu may be selected in the menu



Settings > system > system language

The menu can be secured with an access code.

 *Access codes for display menus, Page 51*



Scroll to the desired setting using the arrow keys on the rocker.


Confirm with **OK** to save and return to the previous menu selection.
Or cancel using the **skip back arrow**  or the **house button** .

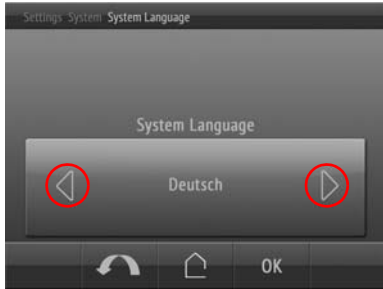
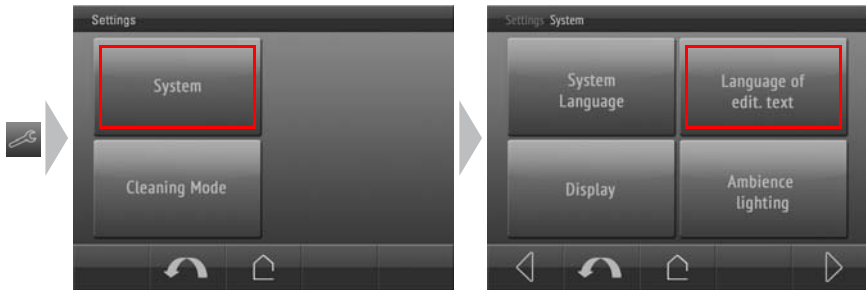
3.3. Editable text language

The language used for the editable texts (e.g. button labels) can be modified in the menu

Settings > system > editable text language



The menu can be secured with an access code.

 *Access codes for display menus, Page 51*



There are 6 languages available that are pre-set in the ETS. The texts can only be changed in the ETS. On the display, the only modification available is the language selection.

Scroll to the desired setting using the arrow keys on the rocker.

Confirm with **OK** to save and return to the previous menu selection.
Or cancel using the **skip back arrow**  or the **house button** .

3.4. Display

3.4.1. Cleaning mode

For cleaning of the screen, the „cleaning mode“ can be used, that is activated via the display.

Settings > Cleaning Mode

During a period set in the ETS, the touch function is disabled then and the screen can be cleaned.



3.4.2. Screen options

Screen options can be adapted in the menu

- Settings > system > screen

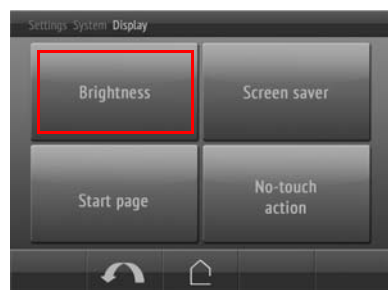
The menu can be secured with an access code.

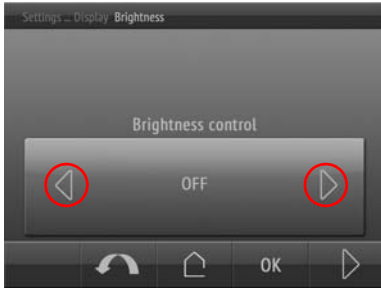
- Access codes for display menus, Page 51*



3.4.3. Brightness


- Settings > system > screen

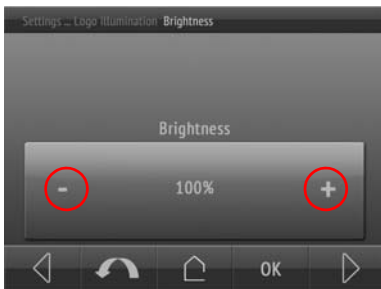




- The screen brightness may be set to a
- fixed value (setting **OFF**).
 - Setting using the internal brightness sensor (setting **according to room brightness**).
 - Setting **via the KNX bus** (this setting can only be selected if pre-set in the ETS).


Scroll to the desired setting using the arrow keys on the rocker.

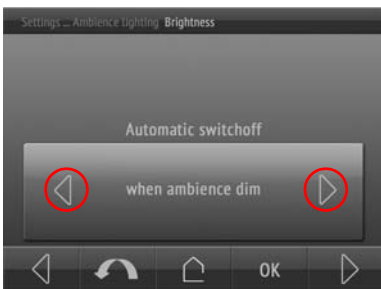
Then use the **Next**  key (bottom right) to skip to the next setting.



If the brightness value is fixed and the control is done via the KNX bus, brightness (or start brightness) can be set in percent.

Scroll to the desired setting using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.

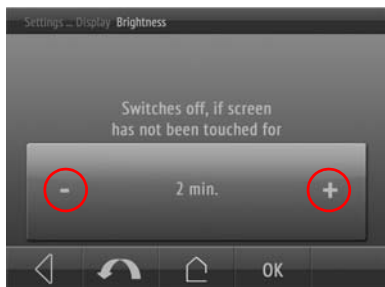


If you are using a fixed brightness value and control according to room brightness, you may also set an automatic switch off. This automatic switch off darkens the display after the pre-set waiting time. The automatic switch off may be

- **set to OFF.**
- **set to ON.**
- switch off **if room dark.**

Scroll to the desired setting using the arrow keys on the rocker.



Then use the **Next**  key (bottom right) to skip to the next setting.



If the automatic switch off is activated, you now set the waiting time until switch off.

Scroll to the desired setting using the +/- buttons on the rocker.

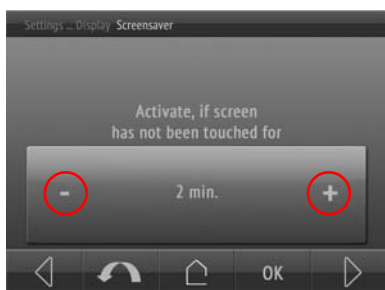
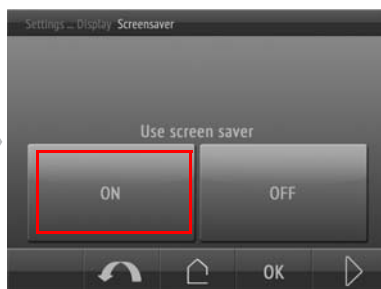
Confirm with **OK** to save and return to the previous menu selection.

You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

3.4.4. Screen saver

The screen saver is displayed if the display has not been touched for a pre-set period of time.

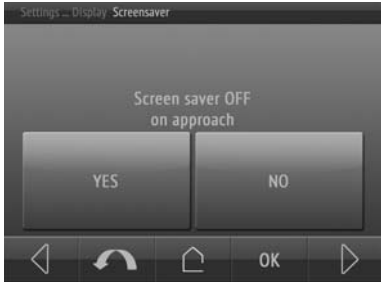
- Settings > system > screen



If the screen saver is activated, you now set the waiting time until screen saver call-up.


Scroll to the desired setting using the +/- buttons on the rocker.

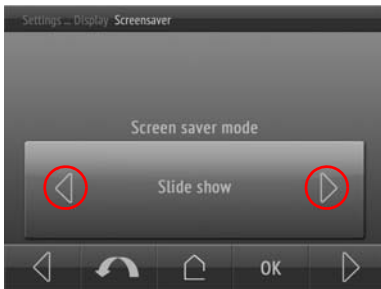
Then use the **Next**  key (bottom right) to skip to the next setting.



The screen saver may be linked to the proximity sensor.

Select **YES** if the display should switch back to the start screen upon proximity.

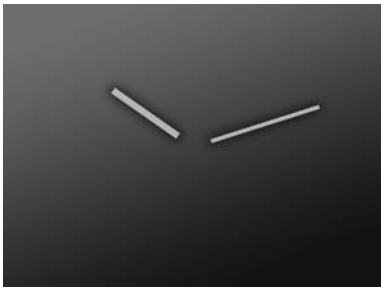
Then use the **Next**  key (bottom right) to skip to the next setting.



Select the desired screen saver:

- Screen OFF
- Analogue clock
- Digital clock
- Image from SD card
- Slide show


Analogue clock

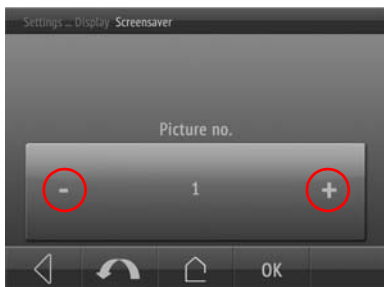


Digital clock



Images you would like to display as screen savers have to be saved on an SD card that remains in the device. Please refer to the chapter



 *Images for screensaver*, Page 15



If you are using an image from an SD card as your screen saver, you can select the image number.

Scroll to the desired image number using the +/- buttons on the rocker.

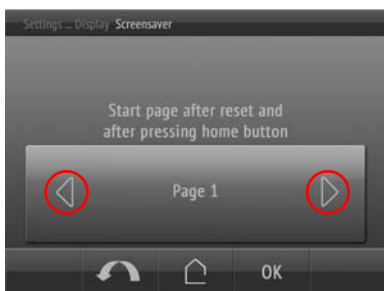
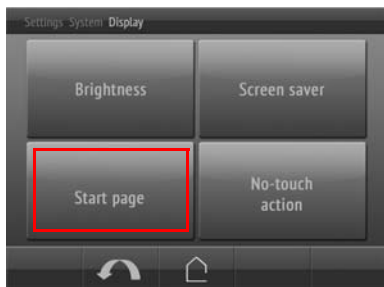
Confirm with **OK** to save and return to the previous menu selection.

You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

3.4.5. Start display

The start display determines which screen is shown on the display when you press the house button (and after a reset).



- Settings > system > screen



All display screens defined in the ETS may be used as the starting screen.

Scroll to the desired start display screen using the +/- buttons on the rocker.

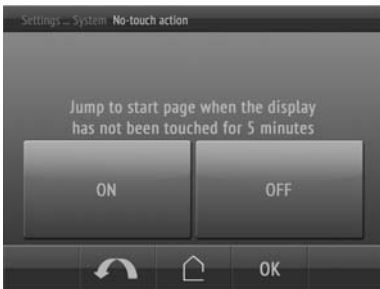
Confirm with **OK** to save and return to the previous menu selection.

Or cancel using the **skip back arrow**  or the **house button** .

3.4.6. No-touch action



This action determines what is to happen if no setting is entered on the display for 5 minutes.

- Settings > system > screen



If you switch the automatic return to the starting screen **ON**, the display returns to that if it isn't touched for 5 consecutive minutes.

If you switch it **OFF**, the display shall remain on the selected screen until a key is pressed.


Confirm with **OK** to save and return to the previous menu selection.
Or cancel using the **skip back arrow**  or the **house button** .

3.5. Ambient lighting

The **Display Corlo Touch KNX** has LEDs installed which are directed to the side from behind the frame. This ambient lighting can be adjusted in terms of colour and brightness. The lighting may be adapted in the menu

- Settings > system > ambient lighting

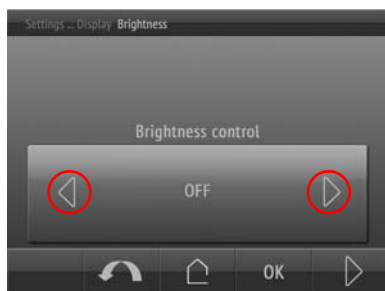
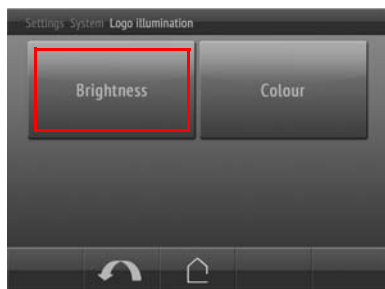
The menu can be secured with an access code.

 *Access codes for display menus, Page 51*



3.5.1. Brightness


- Settings > system > ambient lighting

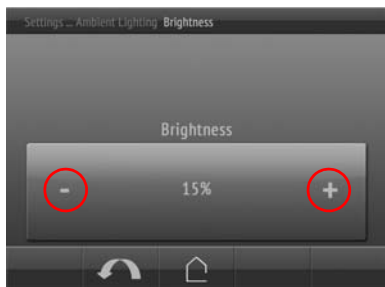


The brightness may be set to a

- fixed value (setting **OFF**).
- Adapted to the screen brightness (**as screen brightness**).
- Adapted to the logo brightness (**as logo brightness**).
- Setting using the internal brightness sensor (**as room brightness**).
- Setting **via the KNX bus** (this setting can only be selected if pre-set in the ETS).

Scroll to the desired setting using the arrow keys on the rocker.

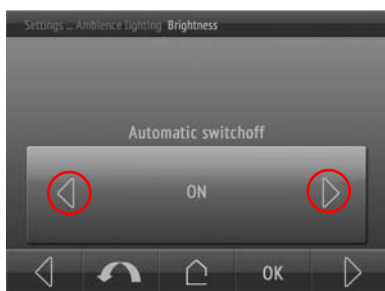
Then use the **Next**  key (bottom right) to skip to the next setting.



If the brightness value is fixed and the control is done via the KNX bus, brightness (or start brightness) can be set in percent.

Scroll to the desired setting using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.



For all types of brightness control except the object control (via KNX bus), automatic switch-off can be set.

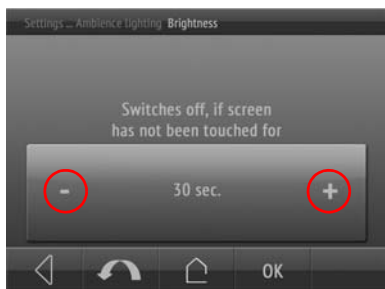
This automatic switch off switches off the ambient lighting after the pre-set waiting time.

The automatic switch off may be

- **set to OFF.**
- **set to ON.**
- **switch off if room dark.**

Scroll to the desired setting using the arrow keys on the rocker.



Then use the **Next**  key (bottom right) to skip to the next setting.



If the automatic switch off is activated, you now set the waiting time until switch off.

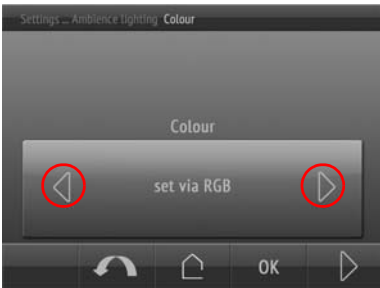
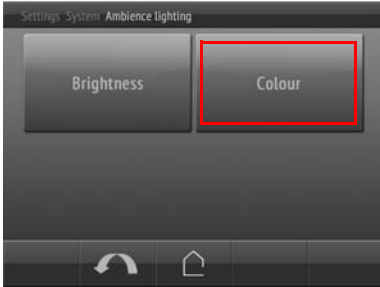
Scroll to the desired setting using the +/- buttons on the rocker.

Confirm with **OK** to save and return to the previous menu selection.

You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

3.5.2. Colour


- Settings > system > ambient lighting

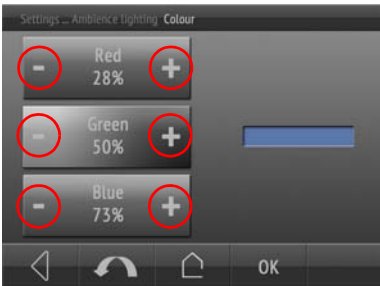


The colour may be set to a

- fixed value which is **set via RGB (%)**
- fixed value which is **set via the colour wheel**
- Adapted to the logo colour (**as logo illumination**).
- Setting **via the KNX bus** (this setting can only be selected if pre-set in the ETS).

Scroll to the desired setting using the arrow keys on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.





If you set a fixed colour value **via RGB**, use the keys for red, green and blue to adapt the values with +/- . You can see a colour preview in the bar on the right.



If you wish to select a fixed colour value with the **colour wheel**, use the rotary control to adapt the colour. You can see a colour preview in the bar on the right.

Confirm with **OK** to save and return to the previous menu selection.

You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

3.6. Logo illumination

This setting may only be made if there is a logo engraved above the display (customizing option). If not, leave the setting at the standard setting "fixed value = 0%".

The logo illumination can be adjusted in terms of colour and brightness. The lighting may be adapted in the menu

- Settings > system > logo illumination

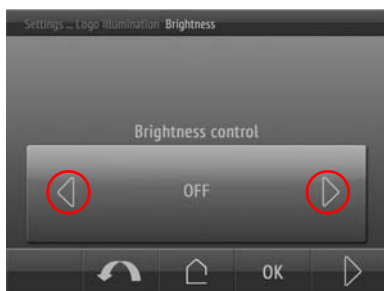
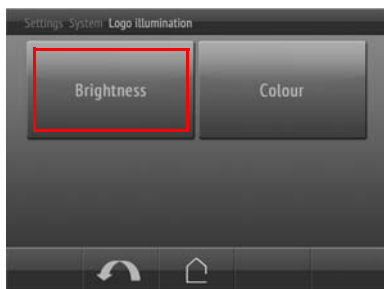
The menu can be secured with an access code. This code may only be modified/set up in the KNX software ETC.





3.6.1. Brightness

- Settings > system > logo illumination

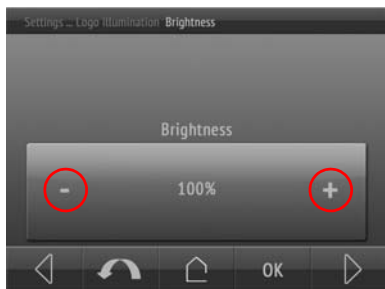


The brightness may be set to a

- fixed value (setting **OFF**).
- Adapted to the screen brightness (**as screen brightness**).
- Adapted to the surrounding brightness (**as ambient lighting**).
- Setting using the internal brightness sensor (**as room brightness**).
- Setting **via the KNX bus** (this setting can only be selected if pre-set in the ETS).

Scroll to the desired setting using the arrow keys on the rocker.

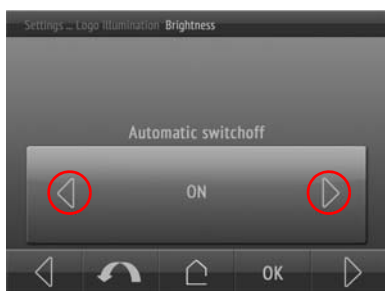
Then use the **Next**  key (bottom right) to skip to the next setting.



If the brightness value is fixed and the control is done via the KNX bus, brightness (or start brightness) can be set in percent.

Scroll to the desired setting using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.



For all types of brightness control except the object control (via KNX bus), automatic switch-off can be set.

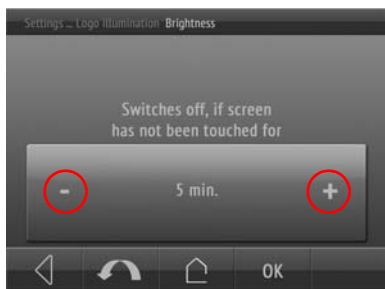
This automatic switch off switches off the logo illumination after the pre-set waiting time.

The automatic switch off may be

- **set to OFF.**
- **set to ON.**
- switch off **if room dark.**

Scroll to the desired setting using the arrow keys on the rocker.



Then use the **Next**  key (bottom right) to skip to the next setting.



If the automatic switch off is activated, you now set the waiting time until switch off.

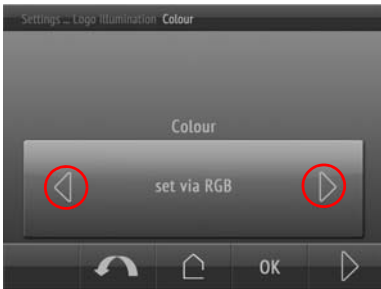
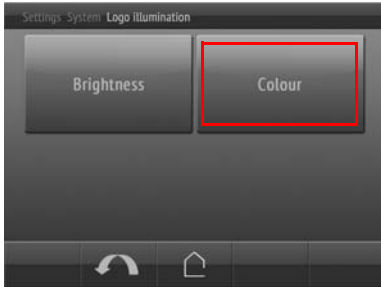
Scroll to the desired setting using the +/- buttons on the rocker.

Confirm with **OK** to save and return to the previous menu selection.

You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

3.6.2. Colour

- Settings > system > logo illumination

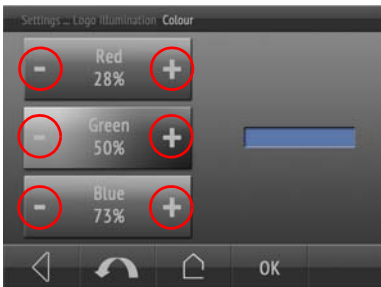


The colour may be set to a

- fixed value which is **set via RGB (%)**
- fixed value which is **set via the colour wheel**
- Adapted to the ambient colour (**as ambient lighting**).
- Setting **via the KNX bus** (this setting can only be selected if pre-set in the ETS).

Scroll to the desired setting using the arrow keys on the rocker.

Then use the **Next** ▶ key (bottom right) to skip to the next setting.





If you set a fixed colour value **via RGB**, use the keys for red, green and blue to adapt the values with +/- . You can see a colour preview in the bar on the right.



If you wish to select a fixed colour value with the **colour wheel**, use the rotary control to adapt the colour. You can see a colour preview in the bar on the right.

Confirm with **OK** to save and return to the previous menu selection.


You can save using **OK** at any time, or cancel using the **skip back arrow**  or the **house button**  without saving.

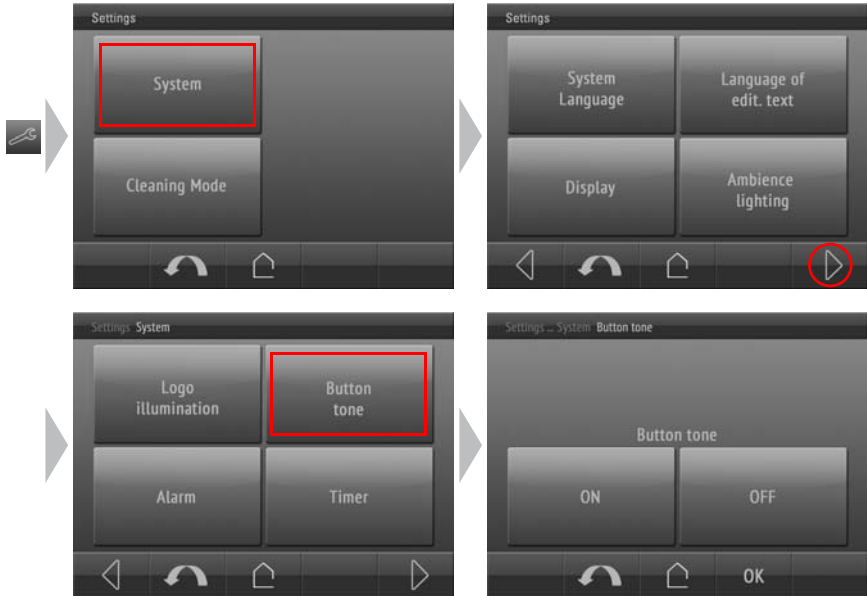
3.7. Button tone

The **Display Corlo Touch KNX** may emit a sound if a button on the display is touched. This button tone can be switched on or off in the menu

- Settings > system > button tone

The menu can be secured with an access code.

 *Access codes for display menus, Page 51*

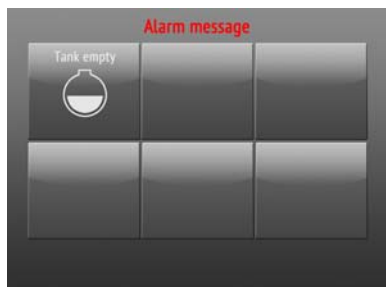


Confirm with **OK** to save and return to the previous menu selection.

Or cancel using the **skip back arrow**  or the **house button** .

3.8. Alarm

The six alarm functions of the **Corlo Touch KNX** show messages in the display. At the same time, the display may flash, and an alarm tone emitted. The alarm can be acknowledged directly on the display or via the bus.



Screen with alarm messages, alarm 1 "tank empty" is active.


Acknowledge the active alarm by pressing the button. Several alarms may be active at the same time.

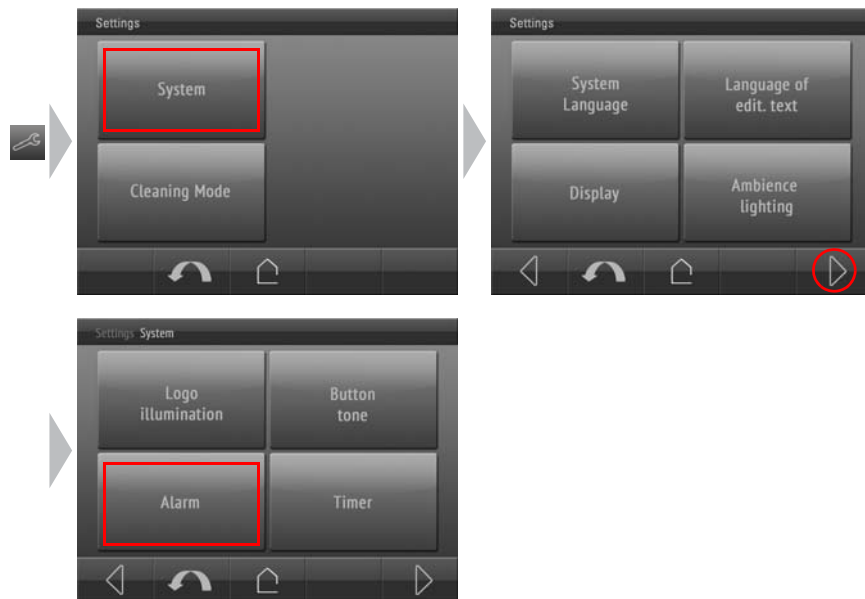
Text and symbol may only be set in the ETS.

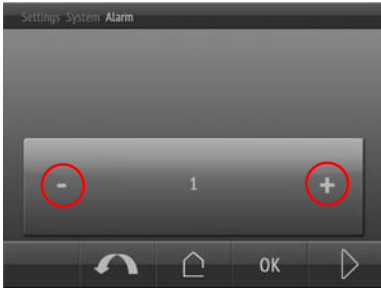
The reaction upon an alarm may be adapted in the menu

- Settings > system > alarm

The menu can be secured with an access code.


 *Access codes for display menus, Page 51*






Select the alarm function you wish to modify (1-6).

Scroll to the desired number using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the first setting.




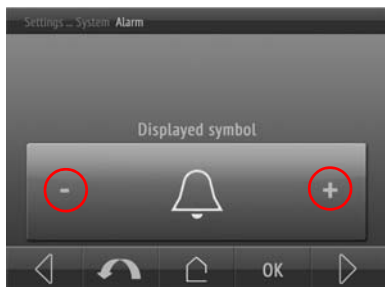
Switch the flashing display background lighting in case of alarm **ON** or **OFF**.

Then use the **Next**  key (bottom right) to skip to the next setting.



Switch the alarm tone **ON** or **OFF**.

Then use the **Next**  key (bottom right) to skip to the next setting.



Select the symbol to be displayed in case of alarm. All the icons of the system are available.

Übersicht Symbole, Page 94

Additionally, custom symbols may be saved on the SD card and then loaded. For further information please refer to chapter

Symbole und Grafiken austauschen, Page 11

Scroll to the desired setting using the arrow keys on the rocker.

Confirm with **OK** to save and return to the previous menu selection.

Or cancel using the **skip back arrow** or the **house button** .

3.9. Timer

16 periods may be defined on the timer of the **Corlo Touch KNX**. Those periods are then allocated to the internal automatic functions such as, e.g. the timed closure of blinds.

Periods must be pre-set in the ETC menu "weekly timer: period". Periods configured as outputs may also be modified on the display. Periods configured as inputs only receive the time settings from another time in the bus system. Only the name of the input periods is displayed, it is not possible to modify the settings.

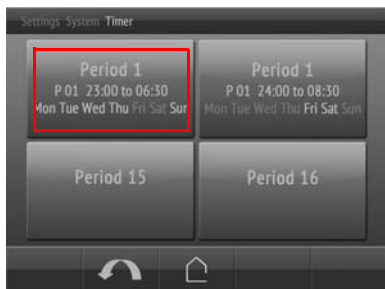
Periods may be viewed or modified in the menu

Settings > system > timer

The menu can be secured with an access code.

Access codes for display menus, Page 51




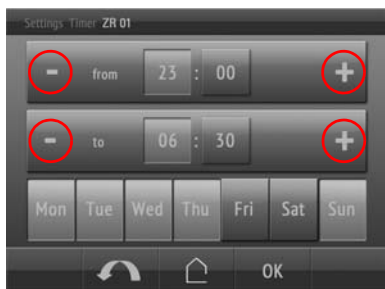


Select the period you wish to modify.

Only the periods preconfigured in the ETS are displayed.

In the example, period 15 and 16 have been configured as inputs in the ETS. The timer information arrives via the bus, no modification may be applied.



Then use the **Next**  key (bottom right) to skip to the next setting.



Set the start and end of the period respectively. In order to do this, activate the field for the hour and then for the minutes and use the +/- buttons on the rocker to adjust the desired time.

Select the day of the week on which the time period should be activated.

In the example, the period lasts from 07:00 to 09:30 and is active Sunday through

Confirm with **OK** to save and return to the previous menu selection. Or cancel using the **skip back arrow**  or the **house button** .

3.10. Alarm

The **Display Corlo Touch KNX** may trigger a wake-up call with a sound alarm and flashing display at a pre-set time. At the same time, the display shows the time and a button to switch the alarm off.

If the alarm is not switched off manually, it stops by itself after the set alarm time is reached. Alternatively, the wake-up call can be switched off via the bus. After the

alarm is switched off, the alarm clock remains active and triggers the alarm again on the next day.



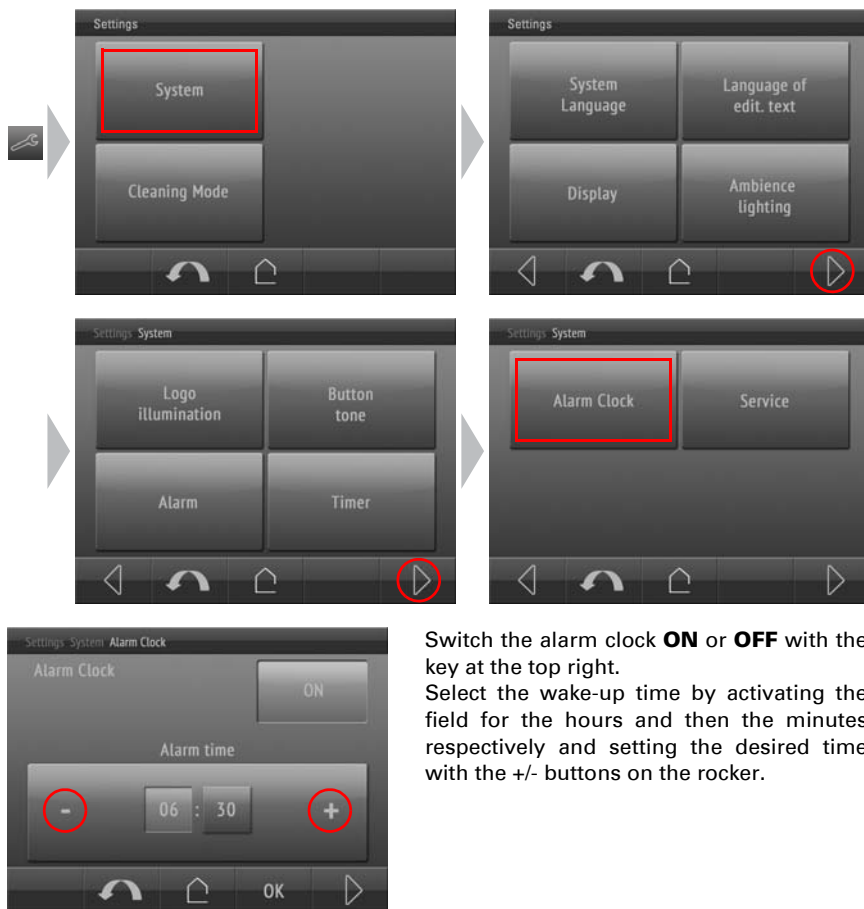
If the alarm clock is activated, there is a little clock symbol displayed next to the time on the display screen.

The symbol is also a button that takes you directly to the alarm clock menu. If the alarm is deactivated, use the settings menu

- Settings > system > alarm clock

The menu can be secured with an access code.

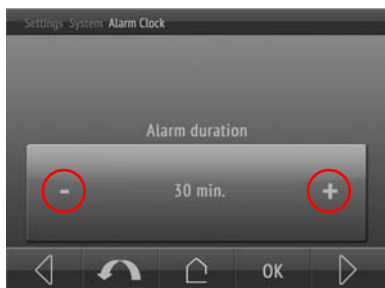
Access codes for display menus, Page 51



Switch the alarm clock **ON** or **OFF** with the key at the top right.

Select the wake-up time by activating the field for the hours and then the minutes respectively and setting the desired time with the +/- buttons on the rocker.

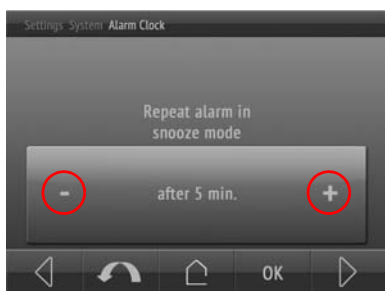
Then use the **Next** key (bottom right) to skip to the next setting.



Set the alarm duration.


Scroll to the desired setting using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.




Determine the snooze period (in minutes) after which the alarm should be repeated. Select "none" if the alarm is not to be repeated.

Scroll to the desired setting using the +/- buttons on the rocker.

Then use the **Next**  key (bottom right) to skip to the next setting.





Switch the alarm tone **ON** or **OFF**.

Then use the **Next**  key (bottom right) to skip to the next setting.



Switch the flashing display background lighting in case of alarm **ON** or **OFF**.

Confirm with **OK** to save and return to the previous menu selection.
Or cancel using the **skip back arrow**  or the **house button** .

3.11. Service

In the service menu, you can

- Reset the access code
- reset the system to the status of the last ETS download
- reset the device software
- allocate a device address (PRG-LED on)
- call up information about the device (software versions)
- read the license text
- access the internal area (manufacturer service only)

3.11.1. Reset the access code

All codes may be reset to the level of the last ETS download via the menu.

- Settings > system > service > reset access code

3.11.2. Reset the system to the status of the last ETS download

All settings modified manually on the display are irrevocably overwritten when the system is reset!

- Settings > system > service > reset to last ETS download

3.11.3. Device reset

This option causes a restart of the device software.

- Settings > system > service > reset

3.11.4. Addressing the equipment

The programming mode for addressing at the bus is activated via the programming button at the back of the housing or via the display.

- Settings > System > Service > KNX



KNX programming LED ON:
Programming mode active.

KNX programming LED OFF:
Programming mode off.

The current address is displayed (Address 15.15.250 when delivered).

3.11.5. Info

This is where you can find the KNX software version information, the display software version and the operating system software version.

- Settings > system > service > info

3.11.6. License

Here you can find information about the licenses for software and hardware components used in the **Display Corlo Touch KNX** as well as license documents and license holders.

4. Set up display screens

The **Display Corlo Touch KNX** offers 10 display scenes which may be configured individually to show:

- areas (switches, display spaces for sensor values)
- rockers
- wheels

There are 38 pre-defined screen displays to select from. The screens are set up in the ETS and then shown on the display.

4.1. Select screen on display


The individual screens are selected using the lower menu bar.



To previous
screen block

"Screen 7"
to be displayed

To next
screen block

In the ETS, determine a **starting screen**. The display jumps to this screen when the **house key**  is pressed in the set-up menus (and after a reset). In addition, you may set the starting screen to be displayed if no entry is made on the display for 5 minutes.

4.2. Setting up screens in the ETS

ETS menu: Screens 1...10

The "tool" key used to jump to the system settings may be displayed on each screen. If the user should not make changes to the system settings, this key can be hidden. If, on the other hand, system settings should be made via the display, the key should be activated on at least one of the display screens.

| | |
|--|-----------------|
| Menu navigation permitted from this screen | <u>Yes</u> • No |
|--|-----------------|


Decide if the settings for the access code, editable texts (i.e. fields with free text input) and symbols/icons should be transferred from the ETS upon download. In this case,

all previous settings are overwritten - even the modification of codes done on the display.

You may want to enter an access code for the display screens. The code must be entered when switching between screens. The standard screen thus always remains accessible.

| | |
|---|---|
| Transfer with download: | |
| - Access code | Yes • No |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
| - editable text | Yes • No |
| - symbols and icons | Yes • No |
| The last two parameters must be set to Yes if you wish to modify the type of controls for the sides, areas, rockers or rotary movement. | |

Set a name for this screen. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language, Page 36*

| | |
|-----------------|-------------|
| Screen name | |
| Languages 1...6 | [free text] |

Select the screen layout according to the table.

 *Overview predefined screens, Page 86*

| | |
|-------------|---------------------------------|
| Screen type | see Overview predefined screens |
|-------------|---------------------------------|

Symbols and labelling for the individual screen elements may be adapted:

Area



Labels in 6 languages with up to 15 characters are possible


Symbols from the internal library or from a Micro SD card. Symbols can have functions and status assigned (e.g. light on - off)



Status labels in 6 languages with up to 10 characters are possible. Alternatively, there is a value display or value input

Select a name for this function. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language, Page 36*

Then assign the function of the area, enter other text you wish to be displayed if necessary and select a symbol. If you do not wish to display a symbol, select symbol no. 254 (not assigned).

 *Symbol overview, Page 92*

| | |
|-----------------|---|
| Name | |
| Languages 1...6 | [free text] |
| Function | see below Area functions |
| Text(s) | |
| Languages 1...6 | [free text] |
| Key symbol(s) | <ul style="list-style-type: none"> • no symbol • symbol 1...254 (internal library, see  table <i>Symbol overview, Page 92</i>) • image selection (from SD card, see  <i>Symbole und Grafiken austauschen, Page 11</i>) |

Area functions

no function

Display 1 / 0

Display date

Display time

Display 8-bit value (0 ... 255)

Display 8-bit value (0 ... 100%)

Display 8-bit value (0 ... 360°)

Display 16-bit counter without math. symbol

Display 16-bit counter with math. symbol

Display 16-bit floating point

Display 32-bit counter without math. symbol

Display 32-bit counter with math. symbol

Display 32-bit floating point

Display text

Display energy [DPT 29.01X]

Input 1

Input 0

Press enter = 1, release = 0

Press enter = 0, release = 1

Input switch

Input date

Input time

Input 8-bit value scene

Input 8-bit value (0 ... 255)

Input 8-bit value (0 ... 100%)

Input 8-bit value (0 ... 360°)

Input 16-bit counter without math. symbol

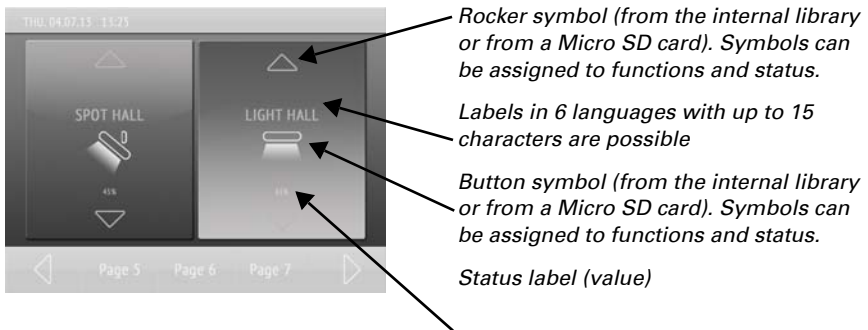
Input 16-bit counter with math. symbol

Input 16-bit floating point

Input 32-bit counter without math. symbol

Input 32-bit counter with math. symbol
 Input 32-bit floating point
 Input text
 Input energy [DPT 29.01X]
 Dim control brighter
 Dim controls darker
 Dim controls brighter / darker
 Controls long-term (0) / short-term
 Controls long-term (1) / short-term
 Page navigation
 System navigation
 Automatic navigation

Rocker



Rocker functions:

1 / 0 switch
 1 / 0 switch (reversed)
 Switching + dimming
 Switching + dimming (reversed)
 Long-term + short-term
 Long-term + short-term (reversed)





Select a name for this function. A name can be selected for each of the six available languages (max. 15 characters).

Editable text language, Page 36

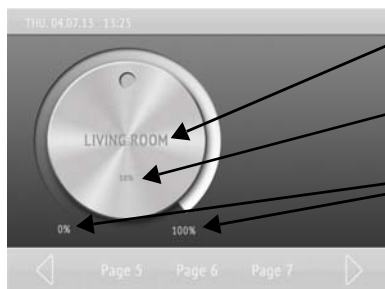
Select the rocker function. Set time requirements for each function and select whether the values are to be displayed (e.g. movement position). Then select symbols for the button (centred) and the rocker. If you do not wish to display a symbol, select symbol no. 254 (not assigned).

Symbol overview, Page 92

| | |
|-----------------|-------------|
| Name | |
| Languages 1...6 | [free text] |

| | |
|--|--|
| Function | see above Rocker functions: |
| Time between switching and dimming (in 10 ms) <i>Only for "switching and dimming"</i> | 0 ... 200; <u>40</u> |
| Display brightness n <i>Only for "switching and dimming"</i> | Yes • <u>No</u> |
| Time 1 in 10ms <i>Only for "long term + short term"</i> | 0 ... 200; <u>40</u> |
| Time 2 in 10ms <i>Only for "long term + short term"</i> | 0 ... <u>200</u> |
| Display movement position <i>Only for "long term + short term"</i> | Yes • <u>No</u> |
| Display slat position <i>Only for "long term + short term"</i> | Yes • <u>No</u> |
| Button symbol for 1 / 0 | <ul style="list-style-type: none"> • no symbol • symbol <u>1...254</u> (internal library, see  table <i>Symbol overview</i>, Page 92) • image selection (from SD card, see  <i>Symbole und Grafiken austauschen</i>, Page 11) |
| Rocker symbol for feedback object value 1 / 0 | <ul style="list-style-type: none"> • no symbol • symbol <u>1...254</u> (internal library, see  table <i>Symbol overview</i>, Page 92) • image selection (from SD card, see  <i>Symbole und Grafiken austauschen</i>, Page 11) |

Rotary control



Labels in 6 languages with up to 15 characters are possible

Status labels in 6 languages with up to 10 characters are possible.

Minimum/maximum value. Resolution and threshold value may be set in the ETS

Rotary control functions:

Temperature

RGB controls

8-bit value (0 ... 255)

8-bit value (0 ... 100%)

8-bit value (0 ... 360°)

16-bit counter without math. symbol

16-bit counter with math. symbol


16-bit floating point

32-bit counter without math. symbol

32-bit counter with math. symbol

32-bit floating point



Select a name for this function. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language*, Page 36

Select the rotary control function. Then select a symbol.

 *Symbol overview*, Page 92

Further settings depend on the function.

| Name | |
|-----------------------|---|
| Languages 1...6 | [free text] |
| Function | see above Rotary control functions: |
| Rotary control symbol | <ul style="list-style-type: none"> • no symbol • symbol 1...254 (internal library, see  table <i>Symbol overview</i>, Page 92) • image selection (from SD card, see  <i>Symbole und Grafiken austauschen</i>, Page 11) |

Temperature function

| | |
|---|----------------------------|
| Text for unit | °C |
| Minimum value in 0.1°C | <u>-32768</u> ... 32767 |
| Maximum value in 0.1°C | -32768 ... <u>32767</u> |
| Resolution in 0.1°C (observe settings range) | 1 ... 10000; <u>10</u> |
| Start value in 0.1°C | -32768 ... 32767; <u>0</u> |

RGB control function

| | |
|--------------------|---|
| RGB ratios set via | <ul style="list-style-type: none"> • one object (1 x 3 byte) • three objects (3 x 1 byte) |
|--------------------|---|

8-bit value function (0 ... 255 / 0...100% / 0...360°)

| | |
|---------------|---|
| Text for unit | [free text] % ° |
| Minimum value | <u>0</u> ... 255 (in 0.1°C) <u>0</u> ... 100 <u>0</u> ... 360 |
| Maximum value | 0 ... <u>255</u> (in 0,1°C) 0 ... <u>100</u> 0 ... <u>360</u> |

| | |
|--|--|
| Resolution (observe settings range) | 1 ... 200; <u>10</u> (in 0.1°C) 5 ... 1000; <u>10</u> (in 0.1%) 1 ... 300; <u>10</u> |
| Start value in 0.1°C | <u>0</u> ... 255 (in 0.1°C) <u>0</u> ... 100 <u>0</u> ... 100 |

16-bit counter with/without math. symbol function

| | |
|--|---|
| Text for unit | [free text] |
| Minimum value | <u>0</u> ... 65535 <u>-32768</u> ... 32767 |
| Maximum value | 0 ... <u>65535</u> <u>-32768</u> ... 32767 |
| Resolution (observe settings range) | 1 ... 60000; <u>10</u> 1 ... 30000; <u>10</u> |
| Start value | <u>0</u> ... 65535 <u>-32768</u> ... 32767; <u>0</u> |

16-bit floating point function

| | |
|---|--|
| Text for unit | [free text] |
| Minimum value in 0.1 | -2147483648 |
| Maximum value in 0.1 | 2147483647 |
| Resolution in 0.1 (observe settings range) | 1 ... 2000000000; <u>10</u> |
| Conversion factor a | -0.0001 • ... • <u>+0.1</u> • ... • +10000 |
| Conversion factor b | <u>1</u> ... 65535 |
| Display value = value of bus * a * b Bus value = display value / a / b | |
| Start value in 0.1 | <u>-32768</u> ... <u>32767</u> |

32-bit counter with/without math. symbol function

| | |
|--|--|
| Text for unit | [free text] |
| Minimum value | <u>0</u> ... 4294697295 <u>-2147483648</u> ... 2147483647 |
| Maximum value | 0 ... <u>4294697295</u> <u>-2147483648</u> ... <u>2147483647</u> |
| Resolution (observe settings range) | 1 ... 4000000000; <u>10</u> 1 ... 2000000000; <u>10</u> |
| Start value | <u>0</u> ... 4294697295 <u>-2147483648</u> ... 2147483647; <u>0</u> |

"32-bit floating point" function selection

| | |
|----------------------|-------------|
| Text for unit | [free text] |
| Minimum value in 0.1 | -2147483648 |

| | |
|---|--|
| Maximum value in 0.1 | 2147483647 |
| Resolution in 0.1 (observe settings range) | 1 ... 2000000000; <u>10</u> |
| Conversion factor a | -0.0001 • ... • <u>+0,1</u> • ... • +10000 |
| Conversion factor b | <u>1</u> ... 65535 |
| Display value = value of bus *a *b Bus value = display value / a / b | |
| Start value in 0.1 | 0 |

4.2.1. Overview predefined screens

38 predefined screens are available, 10 of which may be selected.

Note: The labels and symbols shown are examples, areas, rockers and rotary control labels may be customized.

0 Do not use

1 Website
(Corlo Touch KNX WL model only)



2 one surface



3 two surfaces vertical



4 two surfaces horizontal



5 three surfaces vertical**6** four surfaces**7** six surfaces**8** single rocker vertical**9** single rocker vertical left + one surface**10** single rocker vertical right + one surface

11 single rocker vertical left
+ two surfaces



12 single rocker vertical centre
+ two surfaces



13 single rocker vertical right
+ two surfaces



14 single rocker vertical left
+ four surfaces



15 single rocker vertical centre
+ four surfaces



16 single rocker vertical right
+ four surfaces



17 double rocker vertical**19** double rocker vertical
+ one surface centre**21** double rocker vertical
+ two surfaces left**18** double rocker vertical
+ one surface left**20** double rocker vertical
+ one surface right**22** double rocker vertical
+ two surfaces centre

23 double rocker vertical
+ two surfaces right



25 single rocker horizontal top
+ one surface



27 single rocker horizontal top
+ three surfaces



24 single rocker horizontal



26 single rocker horizontal bottom
+ one surface



28 single rocker horizontal bottom
+ three surfaces



29 double rocker horizontal**30** triple rocker vertical**31** rotary control**32** rotary control
+ one surface vertical**33** rotary control + rocker**34** rotary control
+ one surface top

35 rotary control
+ one surface bottom



36 rotary control
+ two surfaces right



37 rotary control with display at top



38 rotary control with display at top
+ one surface bottom



4.2.2. Symbol overview

In the internal library of the **Corlo Touch KNX**, the following symbols are predefined:

Lighting



0001
Ceiling lamp
on



0002
Ceiling lamp
off



0003
Direct light
on



0004
Direct light
off



0005
Wall lamp
on



0006
Wall lamp
off



0007
Spot on



0008
Spot off



0009
Suspended
lamp on



0010
Suspended
lamp off



0011
Floor light
on



0012
Floor light
off



0013
Floor luminaire
on



0014
Floor luminaire
off



0015
Table lamp o
n



0016
Table lamp off



0017
Bulb
on



0018
Bulb
off

Drives



0031
Shutter
extended



0032
Shutter
retracted



0033
Blinds
extended



0034
Blinds
retracted



0035
Awning
extended



0036
Awning
retracted



0037
Window
Opened



0038
Window
Closed



0039
Sliding door
Opened



0040
Sliding door
Closed



0046
Lock
barred



0047
Roof light
open



0048
Roof light
closed



0049
Light dome
open



0050
Light dome
closed

Colour rings for rotary control



0071
Rotary control
heating



0072
Rotary control
Light



0073
Rotary control
ventilation



0074
Rotary control
Colour

Operation



0081
Display
black



0082
Display
green



0083
Display
blue



0084
Display
red



0085
Digit
0



0086
Digit
1



0087
Digit
2



0088
Digit
3



0089
Digit
4



0090
Digit
5



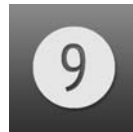
0091
Digit
6



0092
Digit
7



0093
Digit
8



0094
Digit
9



0095
Operating
arrow left



0096
Operating
arrow right



0097
Operating
arrow up



0098
Operating
arrow down



0099
Skip
back



0100
Skip
forward



0101
Plus



0102
Minus



0103
Tool



0104
Switch
on



0105
Switch
off



0106
On/Off



0107
Standby



0108
Clock



0109
Manual



0110
Automatic



0111
OK



0112
Ramp 1
up



0113
Ramp 1
down



0114
Ramp 2
up



0115
Ramp 2
down



0116
Doorbell



0117
Dustbin
white



0118
Dustbin
blue



0119
Dustbin
brown



0120
Dustbin
yellow



0121
Dustbin
green



0122
Dustbin
grey



0123
Scene

climate



0126
Radiator
on



0127
Radiator
off



0128
Floor
heating



0129
Wall
heating



0130
Ceiling
heating



0131
Floor
cooling



0132
Wall
cooling



0133
Ceiling
cooling



0134
Night-time
reduction



0135
Absent



0136
Present



0137
Party



0138
Fan
on



0139
Fan
off



0140
Fan
Level 1



0141
Fan
Level 2



0142
Fan
Level 3



0143
Fan
Level 4



0144
Heating



0145
Heating
plus



0146
Heating
minus



0147
Cooling

Sensors



0156
Sun



0157
Precipitation



0158
Tank



0159
Pyranometer



0160
Air humidity



0161
Earth moisture



0162
Outside
temperature



0163
Inside
temperature



0164
Fountain



0165
Pond



0166
Wet



0167
Snowfall



0168
Frost



0169
Wind direction



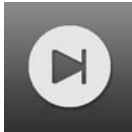
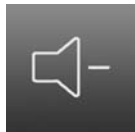
0170
Strong Wind



0171
Light Wind



0172
CO₂

Multimedia**0186**
TV**0187**
Projector**0188**
Projector
screen**0189**
Socket**0190**
Music**0191**
Play**0192**
Pause**0193**
Rewind**0194**
Fast-Forward**0195**
Stop**0196**
Forward**0197**
Back**0198**
Loudspeaker**0199**
Volume
up**0200**
Volume
down**0216**
Motion
detector**0217**
Alarm siren**0218**
Caution**0219**
Key**0220**
Intruder
inside**0221**
Intruder
outside**0222**
Intruder**0223**
Alarm siren
inside**0224**
Alarm siren
outside

House**0236**
House**0237**
Dining room**0238**
Living room**0239**
Kitchen**0240**
Children's room**0241**
Bathroom**0242**
Bedroom**0243**
Cloakroom**0244**
Garage**0245**
Carport**0246**
Garden**0247**
Utility room**0248**
Storeroom**0249**
Laundry

5. Automatic functions

Safety notes for automatic 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. Humidity-sensitive 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.

5.1. General automation settings

ETS: Automation

Use the automation menu to allocate functions to the five automatic channels of the **Corlo Touch KNX**.

Furthermore, this menu is used for making general settings:

- Sun position calculation
- Access code for automatic menus
- Supervision of wind/precipitation objects
- Lock time in case of wind warning
- Twilight threshold value
- Extension and retraction delays for shades
- Opening limitation for windows
- Ventilation lock during cooling
- Night-time re-cooling
- Frost alarm
- Heat protection temperature
- Times for automatic reset

5.1.1. Allocate automation

First of all, you need to decide whether to use automatic functions or not. If this setting is set to "no", all automatic channels are deactivated, although allocations and settings may have been made previously.

| | |
|--------------------|-----------------|
| Send automatically | Yes • <u>No</u> |
|--------------------|-----------------|

Assign the desired function to the five automatic channels

| | |
|-------------------|--|
| Automatic 1 ... 5 | <ul style="list-style-type: none"> • <u>Do not use</u> • Light • Shutter • Awning • Roller blind • Window • Fan • Temperature controller |
|-------------------|--|

5.1.2. Sun position

The sun position is needed to control the shades. The necessary information may be received via communication objects

no. 609 "automatic sun position measuring value Azimut" and

no. 610 "automatic sun position measuring value Elevation"

or be calculated within the system.

| | |
|--|--|
| Sun elevation will be | <ul style="list-style-type: none"> • Calculated • <u>Received via communication objects</u> |
| Type of solar position objects <i>only if sun position is received via communication objects.</i> | <ul style="list-style-type: none"> • 2 byte • <u>4 byte</u> |

The type of the sun position objects (2 or 4 byte) depends on the device sending the values.

For the **calculation** of the sun position, information about the location and time zone has to be provided. The location may be set by selecting a city or entering coordinates.

Select city:

| | | |
|-----------------------|--|--|
| Sun elevation will be | <ul style="list-style-type: none"> • <u>calculated</u> • <u>Received via communication objects</u> | |
| Location input using | <ul style="list-style-type: none"> • <u>City</u> • Coordinates | |
| Country | <ul style="list-style-type: none"> • Belgium • Denmark • <u>Germany</u> • France • Great Britain • Italy | <ul style="list-style-type: none"> • Lichtenstein • Luxembourg • Netherlands • Austria • Switzerland • USA |

| | |
|----------|---|
| Location | 6 towns in Belgium 1 town in Denmark 46 towns in Germany; <u>Stuttgart</u> 23 towns in France 4 towns in Great Britain 10 towns in Italy 1 town in Lichtenstein 1 town in Luxembourg 2 towns in the Netherlands 4 towns in Austria 4 towns in Switzerland 2 towns in the USA |
|----------|---|

Enter coordinates:

| | |
|---------------------------------------|--|
| Sun elevation will be | <ul style="list-style-type: none"> • Calculated • <u>Received via communication objects</u> |
| Location input using | <ul style="list-style-type: none"> • City • <u>Coordinates</u> |
| E. longitude (degrees, -180 ... +180) | -180 ... +180; <u>9</u> |
| E. longitude (Minutes -59 ... +59) | -59 ... +59; <u>10</u> |
| N. latitude (Degrees, -90 ... +90) | -90 ... +90; <u>48</u> |
| N. latitude (Minutes -59 ... +59) | -59 ... +59; <u>46</u> |

In addition, the following information about the time is needed:

| | |
|--|---|
| Time zone (relative to GMT): | |
| Hours | -12 ... 13; <u>1</u> |
| Minutes | <u>0</u> ... 59 |
| European Summer Time | <ul style="list-style-type: none"> • <u>Europe</u> • USA • none • user-defined |
| Start of summer time: <i>May only be modified if there is an active user-defined summer time rule</i> | |
| on | <ul style="list-style-type: none"> • Monday • ... • <u>Sunday</u> • Date (select fixed date, not day of the week) |
| From (day) | 1...31; <u>25</u> |
| (Month) | 1...12; <u>3</u> |
| (Hour) | 0...23; <u>2</u> |
| (Minute) | <u>0</u> ...59 |
| End of summer time: <i>May only be modified if there is an active user-defined summer time rule</i> | |

| | |
|---|---|
| on | <ul style="list-style-type: none"> • Monday • ... • <u>Sunday</u> • Date (select fixed date, not day of the week) |
| From (day) | 1...31; <u>25</u> |
| (Month) | 1...12; <u>10</u> |
| (Hour) | 0...23; <u>2</u> |
| (Minute) | <u>0</u> ...59 |
| Time shift <i>May only be modified if there is an active user-defined summer time rule</i> | |
| Hours | -12...12; <u>1</u> |
| Minutes | <u>0</u> ...59 |

5.1.3. Adapt parameters

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

General automation settings

You may want to enter an access code for the entire menu area for "automatic settings" on the display. The code is requested before the automation menus are shown.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
|---------------------------------------|---|

Wind and precipitation objects may be monitored regularly in order to ensure quick reactions to wind/precipitation warnings or malfunctions. If monitoring is activated, weather information must be received at the selected monitoring intervals (e.g. every 10 minutes), otherwise the relevant automatic channels shall move to a safe position.

| | |
|--|---------------------------------------|
| Using wind and rain object monitoring | <u>Yes</u> • No |
| Monitoring interval (<i>only if Yes has been selected</i>) | 5 s • ... • <u>10 min</u> • ... • 2 h |

Wind alarm

If the wind threshold value for an automatic channel is exceeded, a 5-minute wind warning is triggered. If the wind value is exceeded once more during this period, the holding time of 5 minutes restarts.

For shades (awnings, shutters, blinds), an additional extended automatic lock applies after a wind warning. The duration is set here. If the shading was in automatic mode before the wind warning, the automatic mode remains inactive after the 5 minute wind warning lock time at first. However, manual operation is already possible again.

| | |
|---|-----------|
| Lock time duration for automatic mode after wind alarm in minutes | 0 ... 360 |
|---|-----------|

Twilight

The twilight threshold value denominates the brightness point when the system determines it to be "night". Please note that a brightness value of almost 10 Lux may be reached in moonlit nights. If the twilight threshold value is set to under 10 Lux, shades that are supposed to "close at night" might remain open because of the moonlight, or actually open because of it.

| | |
|---|----------------------|
| below (in Lux) night settings are activated (switch delay = 1 minute) | 1 ... 200; <u>10</u> |
|---|----------------------|

Travel delays

Travel delays prevent the solar protection system from continuously extending and retracting in the event of rapid changes in lighting conditions.

The brightness must remain uninterrupted above the aperture value set for solar protection for a set "extension delay time" (e. g. 1 minute) before the shade will extend. If the light intensity is below the threshold value for the duration of the "retraction delay short" without interruption, the set reaction for "short" is activated, e. g. the slats are opened. Only if the light intensity is uninterruptedly under the threshold value for the duration of the "retraction delay long", the shade is retracted.

| | |
|--|----------------------|
| Extension delay for blinds in minutes | 1 ... 240; <u>1</u> |
| Short retraction delay for shades in minutes | 1 ... 240; <u>5</u> |
| Long retraction delay for shades in minutes | 1 ... 240; <u>30</u> |

Windows opening limitation

The opening limitation determines that a window only opens partly when the outdoor temperature is low. This prevents excessive cooling of the room.

Set the temperature here below which windows should only be opened within limits. Then also decide for how long this temperature setting has to be exceeded in order to deactivate the opening limitation.

| | |
|---|------------------------|
| Start if below ... (in 0.1°C) | -50 ... 150; <u>20</u> |
| End if temperature exceeded for more than (in hours) | 1 ... 72; <u>8</u> |

The degree to which the opening should be limited is set within the automation functions for the different windows.

Ventilation lock

As soon as cooling is switched on, the window are closed and the fans deactivated. When the cooling is switched off again, the ventilation remains inactive for some time to ensure that cooled air is not immediately passed out through windows or fans. You may set the delay time for this as you wish.

The ventilation lock reacts to object no. 608 "automatic status cooling". This input object may also be set to the status of the internal cooling regulation (no. 671 and 672 "AutoX status cooling level X").

| | |
|--|----------------------|
| After shutting off the cooler, ventilation through windows or fans should stay blocked for ... minutes | 1 ... 480; <u>60</u> |
|--|----------------------|

Night-time re-cooling

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

| | |
|--|-------------------------|
| Start when outdoor temperature of (in 0.1°C) | 100 ... 350; <u>160</u> |
| is exceeded for more than ... hours | 1 ... 72; <u>48</u> |

The window(s) and ventilator(s) which are used for the 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.

Frost alarm

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

The frost alarm is triggered in the following situations:

- The outdoor temperature is below the set frost alarm temperature and it is beginning to rain/snow.
- The outdoor temperature drops below the set frost alarm temperature while it is raining/snowing.
- It has rained/snowed. The outdoor temperature falls below the set frost alarm temperature within the set standby period after the end of the precipitation.

The frost alarm ends in the following situations:

- The outdoor temperature remains above the set dew point temperature for the period of time.

First determine when the frost alarm shall be triggered. 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 frost alarm standby mode should be active (e.g. 5 hrs). Select the standby period in a way ensuring that the humidity left from the previous precipitation has all dried up.

Now select the conditions for stopping the frost alarm. Set which outdoor temperature must be exceeded (e.g. 5.0°C) and for how long (e. g. 5 hrs.). Select a period ensuring that ice has completely melted away.

| | |
|---|-----------------------|
| Start frost alarm when | |
| an outdoor temperature of ... (in 0.1°C) is undercut. | -50 ... 40; <u>20</u> |
| during or up to ... (in hours) after precipitation | 1 ... 10; <u>5</u> |
| End frost alarm when | |
| an outdoor temperature of ... (in 0.1°C) | 30 ... 100; <u>50</u> |
| for more than ... (in hours) is exceeded | 1 ... 10; <u>5</u> |

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

Heat protection

The heat protection for shades and windows will be active when the outdoor temperature set here falls below a defined level. Hysteresis determines how many degrees the outdoor temperature has to fall below the set heat protection temperature to void the heat protection status.

| | |
|------------------------|-------------------------|
| Temperature (in 0.1°C) | 100 ... 500; <u>350</u> |
| Hysteresis (in 0.1°C) | 10 ... 200; <u>50</u> |

Automatic Reset

After manual operation, the respective automatic channel always remains in manual mode, automatic mode is deactivated. At the time of the daily automatic reset, the channels may be returned to automatic mode. In addition, you may determine that after a certain period the automatic mode is reactivated.

Automatic resets prevent manual operation of drives which then might remain in an inconvenient position (window inadvertently remains open, shutter remains retracted despite sunlight).

| | |
|--------------------------------------|----------------------|
| The drives can be reset daily at | |
| Time (Hours) | 0 ... 23; <u>3</u> |
| Time (minutes) | <u>0</u> ... 59 |
| or | |
| after (in minutes) | 5 ... 480; <u>60</u> |
| to automatic after manual operation. | |

Automatic resets may be activated and deactivated separately for each automatic channel.

5.2. Automatic light mode

ETS: Automatic X (light)

Light may be set up for simple switching or for dimming.

| | |
|-------|---|
| Light | <ul style="list-style-type: none"> • <u>can be switched</u> • can be dimmed |
|-------|---|

First, configure a lock via a blocking object.

| | |
|--|--|
| Evaluation of the blocking object <i>Blocking objects no. 615/650/685/720/755</i> <i>"AutoX ... block"</i> | <ul style="list-style-type: none"> • <u>1 = block 0 = release</u> • 0 = block 1 = release |
| Blocking object value before 1st communication | 0 • <u>1</u> |
| Action after locking | <ul style="list-style-type: none"> • <u>Execution of last automatic command</u> • Waiting for next automatic command |

Due to the "change to manual mode if the feedback value does not correspond to the set point value", changes caused by external light switches are still registered in the system. Set the parameter to "yes", if all actuators of this channel are to be set to "manual", if the object "AutoX ... feedback" does not correspond to the set point value. This means that the automatic mode is inactive until the next automatic reset.

It is therefore advisable to set the parameters to "no" if many actuators are controlled via this channel. In this case, the information about "manual/automatic" should be processed by each actuator individually.

| | |
|--|-----------------|
| Switch to manual if feedback value deviates from automatic set point value. <i>Objects no. 636/667/702/737/772</i> <i>"AutoX ... feedback"</i> | No • <u>Yes</u> |
|--|-----------------|

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|


You may want to enter an access code for the automatic light settings on the display. The code is requested before the automation menus are shown.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
|---------------------------------------|---|

Select a name for this light. A name can be selected for each of the six available languages

(max. 15 characters).

 *Editable text language, Page 36*

| | |
|-----------------|-------------|
| Automatic name | |
| Languages 1...6 | [free text] |

The light may be switched on at **night**, in pre-defined **periods** and in both situations, linked by AND or OR. Previously activate and define periods you would like to use here in the "weekly timer" menu!

 *Twilight*, Page 105

| | |
|---|---|
| Light switches on | <ul style="list-style-type: none"> • at night • during period • <u>at night AND during period</u> • at night OR during period |
| Period 1 16 <i>only for time operation</i> | <u>No</u> • Yes |

If the light can be **dimmed**, the percentage value for ON and OFF may be selected here.

| | |
|--|------------------|
| Brightness value when ON (in %) <i>only for dimmable light</i> | 0 ... <u>100</u> |
| Brightness value when OFF (in %) <i>only for dimmable light</i> | <u>0</u> ... 100 |

Finally, activate or deactivate the **automatic resets** for this light channel.

| | |
|---|-----------------|
| Perform Automatic Reset | |
| at set time | No • <u>Yes</u> |
| After the input waiting period following manual operation | <u>No</u> • Yes |

 *Automatic Reset*, Page 107

5.3. Shade automation (shutters, awnings, blinds)

The automatic mode for blinds and awnings offers the same setting options. For shutters, there is the additional slat setting option.

ETS: Automatic X (shutters/awnings/blinds)

5.3.1. Set bus communication

First, configure a lock via a blocking object.

| | |
|--|--|
| Evaluation of the blocking object <i>Blocking objects no. 615/650/685/720/755</i> <i>"AutoX ... block"</i> | <ul style="list-style-type: none"> • <u>1 = block</u> 0 = release • 0 = block <u>1 = release</u> |
|--|--|

| | |
|--|---|
| Blocking object value before 1st communication | 0 • <u>1</u> |
| Action after locking | <ul style="list-style-type: none"> • <u>Execution of last automatic command</u> • <u>Waiting for next automatic command</u> |

Due to the "change to manual mode if the feedback value does not correspond to the set point value", changes caused by external switches are still registered in the system. Set the parameter to "yes", if all actuators of this channel are to be set to "manual", if the object "AutoX ... feedback" does not correspond to the set point value. This means that the automatic mode is inactive until the next automatic reset.

It is therefore advisable to set the parameters to "no" if many actuators are controlled via this channel. In this case, the information about "manual/automatic" should be processed by each actuator individually.

| | |
|--|-----------------|
| Switch to manual if feedback value deviates from automatic set point value. <i>Objects no. 636/667/702/737/772</i> <i>"AutoX ... feedback"</i> | No • <u>Yes</u> |
|--|-----------------|

Several objects allow an external evaluation and use of the shade status.

The safety object links frost, wind and precipitation alarm with OR.

"Use with alarm object: Yes" activates separate objects for frost, wind and precipitation warnings.

| | |
|--|-----------------|
| Use status objects for indoor/outdoor temperature blocks <i>Objects no. 625/660/695/730/765 "AutoX ... Status indoor temperature lock"</i> <i>Objects no. 626/661/696/731/766 "AutoX ... Status outdoor temperature lock"</i> | <u>No</u> • Yes |
| Use safety object <i>Objects no. 617/652/687/722/757</i> <i>"AutoX ... Safety"</i> | <u>No</u> • Yes |
| Use alarm objects <i>Precipitation alarm objects no. 618/653/688/723/758 "AutoX ... Rain alarm"</i> <i>Wind alarm objects no. 619/654/689/724/759 "AutoX ... Wind alarm"</i> <i>Frost alarm objects no. 620/655/690/725/760 "AutoX ... Frost alarm"</i> | <u>No</u> • Yes |

| | |
|--|--|
| Transmission behaviour of the safety/alarm objects | <ul style="list-style-type: none"> • <u>on change</u> • 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 <i>is only transmitted if "periodically" is selected</i> | <u>5 s</u> • ... • 2 h |

5.3.2. Changing basic parameters

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!


| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

You may want to enter an access code for the automatic shade settings on the display. The code is requested before the automation menus are shown.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
|---------------------------------------|---|

Then select a name for this shade. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language, Page 36*

| | |
|-----------------|-------------|
| Automatic name | |
| Languages 1...6 | [free text] |

5.3.3. Setting the blind automation

Priorities in automatic shading mode:

1. Alarm functions:

Alarm functions are used for shades in manual and in automatic mode. In case of frost, wind or precipitation alarm, shades are retracted and may not be extended manually.

2. Shade settings:

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

The outdoor temperature lock (extended shades are not moved any more) has the highest priority, followed by
time opening (retraction).
time closure (extension),

night closure (extension),
indoor temperature lock (keep retracted) and
heat protection (alternative movement position)

Only if the direction and the height of the sun are correct and no lock or time/night function is active, the sun protection automatic mode is executed based on the light intensity.

Setting the shading

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

The **sun protection automatic mode** may shade:

Never: In this case, there will be no reaction to sunlight. The shading can be closed with a timer and during the night and operated manually.

Always: In this case, the shade automation approaches a set position, independently of the sun. However, the slats of shutters may always follow the sun position. Shading may be opened and closed based on a timer, closed during the night and operated manually. You may set a separate heat protection position.

Brightness-dependent: This means that the shade is automatically controlled based on light intensity, sun position, indoor and outdoor temperature. Shading may be opened and closed based on a timer, closed during the night and operated manually. You may set a separate heat protection position.

Frost, precipitation and wind alarm can be adjusted for all types of shading to protect the blinds. Such alarm functions block manual operation.

| | |
|---------|--|
| Shading | <ul style="list-style-type: none"> • Never • <u>Always</u> • Brightness-dependent |
|---------|--|

Settings appearing only in case of light-sensitive shading:

Set the light intensity, sun direction (Azimut) and height (elevation) for the shade.

| | |
|---|--|
| Shading | Brightness-dependent |
| From a brightness of (in kLux) | 1...99; <u>40</u> |
| Sun direction 📖 <i>Sun position angle</i> , Page 117 | <ul style="list-style-type: none"> • <u>All sides</u> • West • South-West • South • South-East • East • Angle range |
| greater than (in °) <i>only for angle range</i> | <u>0</u> ...360 |

| | |
|--|--|
| less than (in °) <i>only for angle range</i> | 0... <u>360</u> |
| Sun elevation | <ul style="list-style-type: none"> • <u>Any height</u> • Angle range |
| greater than (in °) <i>only for angle range</i> | <u>0</u> ...90 |
| less than (in °) <i>only for angle range</i> | 0... <u>90</u> |

Select the **movement position** for automatic mode. In case of shutters, you might also select the slat setting and determine whether the slats are to follow the position of the sun. If so, we distinguish between four elevation areas which are each assigned a percentage of slat position.

| | |
|---|---|
| Movement position (in %) | 0... <u>100</u> |
| Slat position <i>only for shutters!</i> | <ul style="list-style-type: none"> • <u>Does not track the sun</u> • Tracks the sun |
| Slat position (in %) <i>without following the sun position</i> | 0...100; <u>75</u> |
| Sun elevation: <i>following the sun position</i> | Slat position (in %): |
| 0° - 15° | 0... <u>100</u> |
| 15° - 30° | 0...100; <u>80</u> |
| 30° - 45° | 0...100; <u>65</u> |
| 45° - 90° | 0...100; <u>50</u> |

If the shade conditions are no longer met (brightness etc), the movement position may be modified after the "short" retraction delay is completed. The shade is only retracted all the way after the "long" retraction delay is completed.

 *Travel delays*, Page 105

| | |
|--|------------------|
| Change movement position after "short" retraction delay | <u>No</u> • Yes |
| Position (in %) <i>only in case of modification by after "short" retraction delay</i> | 0 ... <u>100</u> |
| Modify slat position after "short" retraction delay <i>only for shutters</i> | <u>No</u> • Yes |
| Position (in %) <i>only in case of modification by after "short" retraction delay</i> | <u>0</u> ... 100 |

The **interior temperature block** enables the use of solar energy to warm the room. If the indoor temperature is, for example, under the set value in the morning, the shades remain retracted despite the sun. As soon as the set indoor temperature is exceeded, the block is lifted and the shade released.

Once the indoor temperature sinks again, the lock becomes active as soon as the temperature is more than 3°C below the set value (hysteresis). Please note that the retraction delay is also valid for the indoor temperature lock and the shade shall only be retracted when the delay time is over.

| | |
|--|----------------------|
| Use indoor temperature lock | No • Yes |
| Allow shading from (in 0.1 °C) <i>only if block is active</i> | 50...400; <u>220</u> |

The **outdoor temperature block** prevents moving extended shades at low outdoor temperatures. The block is lifted again only when the temperature rises more than 2.0 °C over the pre-set value (hysteresis).

The block applies to the automatic mode only. Even for active outdoor temperature blocks, the drive reacts to frost, wind and rain alarms and to manual operating commands.



ATTENTION!

A drive or curtain can be damaged if an external shade which has frozen stiff is retracted!

Running rails or other mechanical parts may still be iced up although the outdoor temperature has already risen to quite high degrees.

In order to reliably prevent damage due to ice, use the **frost alarm** function.

| | |
|--|-----------------------|
| Use outdoor temperature block | <u>No</u> • Yes |
| Allow shading from (in 0.1 °C) <i>only if block is active</i> | -200...300; <u>50</u> |

Note: Time coordinated/night closure function and outdoor temperature block.


If the outdoor temperature is below the blocking temperature, shades are automatically extended, but not retracted any more. If the shade no longer retracts after the set time period has expired, check whether the blind is frozen or if the running rails are iced up. If the blind runs freely, re-start the blind manually.

Settings appearing only in case of shading settings saved as applicable "always":

Select the **movement position** for automatic mode. In case of shutters, you might also select the slat setting and determine whether the slats are to follow the position of the sun. If so, we distinguish between four elevation areas which are each assigned a percentage of slat position.

| | |
|---|---|
| Shading | Always |
| Movement position (in %) | 0... <u>100</u> |
| Slat position <i>only for shutters</i> | <ul style="list-style-type: none"> • <u>Does not track the sun</u> • Tracks the sun |
| Slat position (in %) <i>without following the sun position</i> | 0...100; <u>75</u> |

Slat position (only for shutters:

| | |
|---|--|
| Slat position <i>only for shutters</i> | <ul style="list-style-type: none"> • <u>Does not track the sun</u> • Tracks the sun |
| Slat position (in %) | 0...100; <u>75</u> |
| Slat position | <ul style="list-style-type: none"> • <u>Does not track the sun</u> • <u>Tracks the sun</u> |
| From a brightness of (in kLux) | 1...99; <u>40</u> |
| Sun direction  Sun position angle, Page 117 | <ul style="list-style-type: none"> • <u>All sides</u> • West • South-West • South • South-East • East • Angle range |
| greater than (in °) <i>only for angle range</i> | 0...360; <u>90</u> |
| less than (in °) <i>only for angle range</i> | 0...360; <u>270</u> |
| Sun elevation | <ul style="list-style-type: none"> • <u>Any height</u> • Angle range |
| greater than (in °) <i>only for angle range</i> | <u>0</u> ...90 |
| less than (in °) <i>only for angle range</i> | 0... <u>90</u> |
| Sun elevation: | Slat position (in %): |
| 0° - 15° | 0... <u>100</u> |
| 15° - 30° | 0...100; <u>80</u> |
| 30° - 45° | 0...100; <u>65</u> |
| 45° - 90° | 0...100; <u>50</u> |
| Slat position (in %) when sun no longer in the aforementioned range or after completion of short retraction delay | 0 ... 100; <u>75</u> |

Settings when the shading is activated for "always" or "brightness related":

If the shade is kept closed at all times, or controlled in relation to brightness, you can select whether the blinds should be used as a **heat protection** and opened in certain **intervals**.

The heat protection temperature is set in the "automatic" menu.


 Heat protection, Page 107

| | |
|---|------------------|
| Use heat protection <i>only if shades are "never" used.</i> | <u>No</u> • Yes |
| Heat protection movement position <i>only if heat protection is used</i> | 0 ... <u>100</u> |

| | |
|---|------------------|
| Heat protection slat position <i>only if heat protection is used</i> | 0 ... <u>100</u> |
| Use time opening for <i>only if shades are "never" used.</i> | |
| Period 1 - 16 | <u>No</u> • Yes |

Settings for ALL modes of shading:

You may select **time and night closure** for all types of shading. Activate and define periods you would like to use here in the "weekly timer" menu first!


 *Weekly timer*, Page 46

| | |
|---|------------------------|
| Use time opening for <i>only if shades are "never" used.</i> | |
| Period 1 - 16 | <u>No</u> • Yes |
| Use timed closure for | |
| Period 1 - 16 | <u>No</u> • Yes |
| Use night-time closure | <u>No</u> • <u>Yes</u> |
| Positions during night time/time closure | |
| Movement position (in %) | 0... <u>100</u> |
| Slat position (in %) <i>only for shutters</i> | 0... <u>100</u> |

Frost, precipitation and wind alarm make the shading move into its safe position and block manual operation.

Wind and precipitation alarm are maintained for 5 minutes. For shading there is an additional, prolonged automatic block after a wind alarm. During this time, automatic mode is blocked but manual operation already possible.

Conditions for frost alarm and the blocking period for shades after a wind alarm are determined in the "Automation" menu.

 *Frost alarm*, Page 106 and *Wind alarm*, Page 104

| | |
|--|------------------------|
| Use frost protection | <u>No</u> • Yes |
| Use rain alarm | <u>No</u> • Yes |
| Use wind alarm | <u>No</u> • <u>Yes</u> |
| Wind alarm value (in 0.1 m/s) <i>only if wind alarm is used</i> | 5...195; <u>80</u> |
| Wind alarm delay (in s) <i>only if wind alarm is used</i> | 1...20; <u>2</u> |

Finally, activate or deactivate the **automatic resets** for this shading channel.

| | |
|---|------------------------|
| Perform Automatic Reset | |
| at set time | <u>No</u> • <u>Yes</u> |
| After the input waiting period following manual operation | <u>No</u> • Yes |

📖 *Automatic Reset*, Page 107

Sun position angle

| | | |
|------------|-------------------|-------------------|
| All sides | greater than 0° | smaller than 360° |
| West | greater than 180° | smaller than 360° |
| South-West | greater than 135° | smaller than 315° |
| South | greater than 90° | smaller than 270° |
| South-East | greater than 45° | smaller than 225° |
| East | greater than 0° | smaller than 180° |

5.4. Automatic window mode

ETS: Automatic X (window)

Windows may be configured with or without gradual opening (opening step by step).

| | |
|--|--|
| Window type | <ul style="list-style-type: none"> • <u>without gradual opening</u> • with gradual opening |
| Number of steps <i>only for gradual opening</i> | 2...10; <u>5</u> |

5.4.1. Set bus communication

First, configure a lock via a blocking object.

| | |
|--|--|
| Evaluation of the blocking object <i>Blocking objects no. 615/650/685/720/755</i> <i>"AutoX ... block"</i> | <ul style="list-style-type: none"> • <u>1 = block 0 = release</u> • 0 = block 1 = release |
| Blocking object value before 1st communication | 0 • <u>1</u> |
| Action after locking | <ul style="list-style-type: none"> • <u>Execution of last automatic command</u> • Waiting for next automatic command |

Due to the "change to manual mode if the feedback value does not correspond to the set point value", changes caused by external switches are still registered in the system. Set the parameter to "yes", if all actuators of this channel are to be set to "manual", if the object "AutoX ... feedback" does not correspond to the set point value. This means that the automatic mode is inactive until the next automatic reset.

It is therefore advisable to set the parameters to "no" if many actuators are controlled via this channel. In this case, the information about "manual/automatic" should be processed by each actuator individually.

| | |
|--|-----------------|
| Switch to manual if feedback value deviates from automatic set point value. <i>Objects no. 636/667/702/737/772</i> <i>"AutoX ... feedback"</i> | No • <u>Yes</u> |
|--|-----------------|

Several different objects allow an external evaluation and use of the window status.

The safety object links frost, wind and precipitation alarm with OR.

With "Use alarm object: Yes" separate objects for frost, wind and precipitation warnings are activated.

| | |
|--|--|
| Use status objects for outdoor temperature block <i>Objects no. 626/661/696/731/766 "AutoX window status outdoor temperature block"</i> | <u>No</u> • Yes |
| Use safety object <i>Objects no. 617/652/687/722/757 "AutoX window safety"</i> | <u>No</u> • Yes |
| Use alarm objects <i>Precipitation alarm objects no. 618/653/688/723/758 "AutoX ... Rain alarm"</i> <i>Wind alarm objects no. 619/654/689/724/759 "AutoX ... Wind alarm"</i> <i>Frost alarm objects no. 620/655/690/725/760 "AutoX ... Frost alarm"</i> | <u>No</u> • Yes |
| Transmission behaviour of the safety/alarm objects | <ul style="list-style-type: none"> • <u>on change</u> • 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 <i>is only transmitted if "periodically" is selected</i> | <u>5 s</u> • ... • 2 h |

5.4.2. Changing basic parameters

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

You may want to enter an access code for the automatic window settings on the display. The code is requested before the automation menus are shown.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
|---------------------------------------|---|

Select a name for this window. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language, Page 36*

| | |
|-----------------|-------------|
| Automatic name | |
| Languages 1...6 | [free text] |

5.4.3. Setting the window automation

Priorities in automatic window mode:

1. Alarm functions:

Alarm functions are used for windows in manual and in automatic mode. In case of frost, wind or precipitation alarm, windows are closed and may not be opened manually.

Similarly, the ventilation block closes windows (object no. 608 "Automatic status cooling" = 1). They are then in automatic mode and can be immediately operated manually again. The delay time for the ventilation block can be adjusted.

 *Ventilation lock*, Page 106

2. 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 granted to timed closure, followed by outdoor temperature blocks (keep closed), timed ventilation (open), supply 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 exceeds the pre-set value for the outdoor temperature block.

Ventilation automation according to temperature, air humidity or CO₂ content is only executed if no block applies.

Setting the window ventilation

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

For the **ventilation** you may evaluate the indoor temperature, relative air humidity and the CO₂ content of the air in the room.

| | |
|--|----------------------|
| Use indoor temperature | No • <u>Yes</u> |
| Open from (in 0.1°C) <i>only if ventilation based on indoor temperature</i> (Hysteresis = 2°C) | 50...400; <u>220</u> |
| Use air humidity | No • <u>Yes</u> |


| | |
|--|---------------------|
| Open from (in % rH) <i>only if ventilation based on air humidity</i> (Hysteresis = 3%) | 10...95; <u>60</u> |
| Use CO ₂ | No • <u>Yes</u> |
| Open from above (in 10 ppm) <i>only if ventilation based on CO₂ value</i> | 50...200; <u>80</u> |
| Close from below (in 10 ppm) <i>only if ventilation based on CO₂ value</i> | 50...200; <u>55</u> |

The **supply temperature block** closes the window if it is warmer outside than inside.

| | |
|--|-----------------|
| Close the window when the supply air temp. is higher than the room temperature | No • <u>Yes</u> |
|--|-----------------|

Select the periods for **night-time re-cooling**. Activate and define periods you would like to use here in the "weekly timer" menu first!

The night-time re-cooling is set in the "Automation" menu.

 *Night-time re-cooling*, Page 106

| | |
|---|----------------------|
| Use night-time re-cooling for | |
| Period 1 - 16 | No • <u>Yes</u> |
| Open window until room temperature falls below (in 0.1°C) | 50...500; <u>160</u> |
| Window opening (in %) | 0...100; <u>30</u> |


The effect of the **outdoor temperature block** is that the window remains in the current position. The 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 to 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 (alarm has priority over blocking temperature).

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

| | |
|--|-----------------------|
| Use outdoor temperature block | <u>No</u> • Yes |
| Close when below (in 0.1°C) <i>if temperature block is used</i> | -100...200; <u>50</u> |


Select the **periods** during which the window should be opened and those when it should be closed. Activate and define periods you would like to use here in the "weekly timer" menu first!

 *Weekly timer*, Page 46

| | |
|----------------------|-----------------|
| Use time opening for | |
| Period 1 - 16 | <u>No</u> • Yes |

| | |
|-----------------------|-----------------|
| Use timed closure for | |
| Period 1 - 16 | <u>No</u> • Yes |

The **opening limitation** limits the opening range of the window when the outdoor temperatures are low. The opening limitations are set in the "Automation" menu.


 *Windows opening limitation*, Page 105

| | |
|---|----------------------|
| Use opening restriction | No • <u>Yes</u> |
| Position <i>only if opening is limited</i> | 0 ... 100; <u>20</u> |

The **ventilation block** is activated when cooling is switched on (object no. 608 "Automatic cooling status" = 1) and closes the window. It may, however, be opened again manually immediately.

Frost, precipitation and wind alarm, on the other hand, close the window and block manual operation. In case of precipitation alarm, the window may remain slightly open. Wind and precipitation alarm are maintained for 5 minutes.

Conditions for frost alarm and the delay period for the ventilation block are determined in the "Automation" menu.

 *Ventilation lock*, Page 106 and *Frost alarm*, Page 106

| | |
|---|---------------------|
| Use ventilation block | <u>No</u> • Yes |
| Use frost protection | <u>No</u> • Yes |
| Use rain alarm | <u>No</u> • Yes |
| Use gap opening during rain <i>only if precipitation alarm is used</i> | <u>No</u> • Yes |
| Gap opening (in %) | 0 ... 100; <u>4</u> |
| Use wind alarm | No • <u>Yes</u> |
| Wind alarm value (in 0.1 m/s) <i>only if wind alarm is used</i> | 5...195; <u>80</u> |
| Wind alarm delay (in sec) <i>only if wind alarm is used</i> | 1...20; <u>2</u> |

Finally, activate or deactivate the **automatic resets** for this window channel.

| | |
|---|-----------------|
| Perform Automatic Reset | |
| At set time | No • <u>Yes</u> |
| After the input waiting period following manual operation | <u>No</u> • Yes |

 *Automatic Reset*, Page 107

5.5. Automatic fan mode

Automatic control and manual operation of fans is only possible if the **Display Corlo Touch KNX** receives feedback about the current exhaust air level from the fan actuator.

ETS: Automatic X (fan)

5.5.1. Set bus communication

First, configure a lock via a blocking object.

| | |
|--|--|
| Evaluation of the blocking object <i>Blocking objects no. 615/650/685/720/755</i> <i>"AutoX ... block"</i> | <ul style="list-style-type: none"> • <u>1 = block</u> 0 = release • 0 = block <u>1 = release</u> |
| Blocking object value before 1st communication | 0 • <u>1</u> |
| Action after locking | <ul style="list-style-type: none"> • <u>Execution of last automatic command</u> • Waiting for next automatic command |

Due to the "change to manual mode if the feedback value does not correspond to the set point value", changes caused by external switches are still registered in the system. Set the parameter to "yes", if all actuators of this channel are to be set to "manual", if the object "AutoX ... feedback" does not correspond to the set point value. This means that the automatic mode is inactive until the next automatic reset.

It is therefore advisable to set the parameters to "no" if many actuators are controlled via this channel. In this case, the information about "manual/automatic" should be processed by each actuator individually.

| | |
|--|-----------------|
| Switch to manual if feedback value deviates from automatic set point value. <i>Objects no. 636/667/702/737/772</i> <i>"AutoX ... feedback"</i> | No • <u>Yes</u> |
|--|-----------------|

The "Status outdoor temperature block" object allows an external evaluation and use of the fan status.

| | |
|--|-----------------|
| Use status objects for outdoor temperature block <i>Objects no. 626/661/696/731/766</i> <i>"AutoX window status outdoor temperature block"</i> | <u>No</u> • Yes |
|--|-----------------|

5.5.2. Changing basic parameters

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!


| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

You may want to enter an access code for the automatic fan settings on the display. The code is requested before the automation menus are shown.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |
|---------------------------------------|---|

Select a name for this fan. A name can be selected for each of the six available languages (max. 15 characters).

 *Editable text language*, Page 36

| | |
|-----------------|-------------|
| Automatic name | [free text] |
| Languages 1...6 | [free text] |

5.5.3. Setting the automatic ventilation

Priority for the fan automation functions:

The fan settings are only activated if there is a fan in automatic mode and the ventilation block (because of active cooling, object no. 608) is not active.

The highest priority is awarded to the outdoor temperature block (switched off), followed by timed ventilation (activated), supply air temperature block (switched off) and night-time re-cooling (switched on).

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

Ventilation automation according to temperature, air humidity or CO₂ content is only executed if no block applies.

Ventilation settings

Select "Transmit the following parameters: Yes" to render the modifications valid. Previous settings are then overwritten - including modifications done on the display!

| | |
|-----------------------------------|-----------------|
| Transfer the following parameters | No • <u>Yes</u> |
|-----------------------------------|-----------------|

For the **ventilation** you may evaluate the indoor temperature, relative air humidity and the r CO₂ content of the air in the room.

| | |
|---|----------------------|
| Use indoor temperature | No • <u>Yes</u> |
| Start ventilation from (in 0.1°C) <i>only if ventilation based on indoor temperature</i> (Hysteresis = 2°C) | 50...400; <u>220</u> |
| Use air humidity | No • <u>Yes</u> |
| Start ventilation from (in % rH) <i>only if ventilation based on air humidity</i> (Hysteresis = 3%) | 10...95; <u>60</u> |

| | |
|--|---------------------|
| Use CO ₂ | No • <u>Yes</u> |
| Start ventilation from above (in 10 ppm) <i>only if ventilation based on CO₂ value</i> | 50...200; <u>80</u> |
| Stop ventilation from below (in 10 ppm) <i>only if ventilation based on CO₂ value</i> | 50...200; <u>55</u> |


The **supply temperature block** prevents ventilation if it is warmer outside than inside.

| | |
|---|-----------------|
| Terminate ventilation if the supply air temp. is higher than the room temperature | No • <u>Yes</u> |
|---|-----------------|

Set the **rotational speed range** you wish to use for ventilation.

| | |
|--|--------------------|
| Start exhaust ventilation at (in %) | 1...100; <u>10</u> |
| and increase exhaust ventilation to (in %) | 1...100; <u>80</u> |

Select the periods for **night-time re-cooling**. Activate and define periods you would like to use here in the "weekly timer" menu first!


 *Weekly timer*, Page 46

| | |
|---|----------------------|
| Use night-time re-cooling for | |
| Period 1 - 16 | No • <u>Yes</u> |
| Ventilate until room temperature falls below (in 0.1°C) | 50...500; <u>160</u> |
| Ventilate at level (in %) | 0...100; <u>30</u> |

The **outdoor temperature lock** prevents ventilation when it is cold outside (e. g. protection of plants against cold). The block only applies to automatic mode, manual operation is still possible.

| | |
|--|-----------------------|
| Use outdoor temperature block | <u>No</u> • Yes |
| Close when below (in 0.1°C) <i>if temperature block is used</i> | -100...200; <u>50</u> |

Select the **periods** when you want to activate the ventilation. Activate and define periods you would like to use here in the "weekly timer" menu first!

 *Weekly timer*, Page 46

| | |
|--|--------------------|
| Use timed ventilation for | |
| Period 1 - 16 | <u>No</u> • Yes |
| Ventilate at level (in %) <i>only for timed ventilation</i> | 1...100; <u>50</u> |

The **ventilation block** is activated when cooling is switched on (object no. 608 "Automatic cooling status" = 1) and prevents ventilation. However, the fan may be restarted manually immediately.

| | |
|----------------------|-----------------|
| Use ventilation lock | <u>No</u> • Yes |
|----------------------|-----------------|

Finally, activate or deactivate the **automatic resets** for this fan channel.

| Perform Automatic Reset | |
|---|-----------------|
| at set time | No • <u>Yes</u> |
| After the input waiting period following manual operation | <u>No</u> • Yes |

 *Automatic Reset, Page 107*

5.6. Temperature controller

Due to the temperature control, heating and cooling may be controlled in two levels.

ETS: Automatic X (temperature control)

General regulation

You may want to enter an access code for the automatic fan settings on the display. The code is requested before the automation menus are shown. Select "Transmit the access code: Yes" to render the modifications valid.

Note: There are no automation menus available in version 0.1 of the display software!

| | |
|---------------------------------------|---|
| Transmit access code | <u>No</u> • Yes |
| Access code (8 digits from 0 to 9) | [free text] <i>An empty field means that no code query is done</i> |

For an adequate regulation of the indoor temperature, comfort, standby, eco and building protection modes may be used.

Comfort when present,

Standby during short absences,

Eco as a night-time mode and

Frost/heat protection (building protection) during longer absences.

The settings for the temperature control include the set point temperatures for the individual modes. Objects are used to determine which mode is to be selected. A change of mode may be triggered manually or automatically (e.g. by a timer, window contact).

The **mode** may be switched with two 8 bit objects of different priority. Objects

"... HVAC mode (Prio 2)" for switching in everyday operation and

"... HVAC mode (Prio 1)" for central switching with higher priority.

The objects are coded as follows:

| ID | Name | Encoding | Range | Use |
|--------|--------------|---|-----------|------|
| 20,102 | DPT_HVACMode | field1 = HVACMode 0 = Auto 1 = Comfort 2 = Standby 3 = Economy 4 = Building Protection 5 ... 255 = reserved | [0 ... 4] | HVAC |

Alternatively, you can use three objects, with one object switching between eco and standby mode and the two others are used to activate comfort mode or frost/heat protection mode. The comfort object then blocks the eco/standby object, and frost/heat protection objects have the highest priority. Objects

"... Mode (1: Eco, 0: Standby)",

"... comfort activation mode" and

"... frost/heat protection activation mode"

| | |
|-----------------|---|
| Switch mode via | <ul style="list-style-type: none"> • two 8-bit objects (HVAC modes) • three 1-bit objects |
|-----------------|---|

Select the mode to be activated after reset (e.g. power failure, reset of the line via the bus). (Default).

Then configure a block of the temperature control by the blocking object.

| | |
|--|---|
| Mode after reset | <ul style="list-style-type: none"> • Comfort • Standby • Eco • <u>Building protection</u> |
| Behaviour of the blocking object at value | <ul style="list-style-type: none"> • <u>1 = block 0 = release</u> • 0 = block 1 = release |
| Blocking object value before 1st communication | 0 • <u>1</u> |

Determine when the current settings of the controls are to be transmitted to the bus. Periodic transmission is safer if a message does not reach a recipient. You may also set up periodical monitoring by the actuator with this setting.

| | |
|--|--|
| Send actuating variables | <ul style="list-style-type: none"> • <u>on change</u> • on change and periodically |
| cycle <i>for periodical transmission only</i> | 5 s • ... • <u>5 min</u> • ... • 2 h |

The status object reports the current status of the output (0 = OFF, <0 = ON) and may for example be used for visualisation, or to switch off the heating pump as soon as the heating is switched off.

| | |
|--|--|
| Send status objects | <ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically |
| cycle <i>for periodical transmission only</i> | 5 s • ... • <u>5 min</u> • ... • 2 h |

Then define the type of setting. Heating and/or cooling may be controlled in two levels.

| | |
|-----------------|---|
| Type of control | <ul style="list-style-type: none"> • <u>One-stage heating</u> • Dual-speed heating • Single-speed cooling • Dual-stage cooling • Single-speed heating + Single-speed cooling • Dual-speed heating + Single-speed cooling • Dual-speed heating + Dual-speed cooling |
|-----------------|---|

General set point values

You may enter separate set point values for each mode or use the comfort set point as a basic value.

If you are using the controls for both heating *and* cooling, you may also select the setting "separately with switching object". Systems used for cooling in the summer and for heating in the winter can thus be switched from one to the other.

If you are using the basic value, only the deviation from the comfort set point value is listed for the other modes (e. g., 2°C less for standby mode).

| | |
|---|---|
| Setting the nominal values | <ul style="list-style-type: none"> • <u>separately</u> with switching object • separate without switching object • with comfort set point as a basis |
| Behaviour of the switching object at value <i>only if switching object is used</i> | <ul style="list-style-type: none"> • <u>0 = Heating 1 = Cooling</u> • 1 = Heating 0 = Cooling |
| Switching object value before 1st communication <i>only if switching object is used</i> | <u>0</u> • 1 |

Set point values may be modified by manual input (on the operating display, via the bus). The grades for the set point changes is predefined. Modifications may only remain active temporarily (do not save) or remain saved even after voltage recovery (and programming). This also applies to a started comfort extension.

| | |
|--|-------------------|
| Grading for set point changes (in 0.1 °C) | 1...50; <u>10</u> |
|--|-------------------|

| | |
|--|---|
| Saving set point value(s) and comfort extension time | <ul style="list-style-type: none"> • not • <u>after voltage recovery</u> • after voltage recovery and programming (do not use for first start-up!) |
|--|---|

The control may be manually reset to comfort mode from eco, or night mode (operating display, bus button). This allows the user to maintain the daily nominal value for a longer time, e.g. when having guests. The duration of this comfort extension period is set. After the comfort extension period is terminated, the system returns to eco mode.

| | |
|--|------------------------|
| Comfort extension time in seconds (can only be activated from eco mode) | 1...36000; <u>3600</u> |
|--|------------------------|

Set point, Comfort

Comfort mode is usually used for daytime mode when people are present. A starting value is defined for the comfort set point as well as a temperature range in which the nominal value may be modified (operating display).

| | |
|---|------------------------|
| Initial heating/cooling set point (in 0.1 °C) valid till 1st communication <i>not upon saving the set point value after programming</i> | -300...800; <u>210</u> |
| Min. object value heating/cooling (in 0.1 °C) | -300...800; <u>160</u> |
| Max. object value heating/cooling (in 0.1 °C) | -300...800; <u>280</u> |

If the comfort set point is used as the basis, a dead zone is determined for the control mode "heating *and* cooling" to avoid direct switching from heating to cooling.

| | |
|--|--------------------|
| Dead zone between heating and cooling <i>only if both heating AND cooling are used.</i> | 1...100; <u>50</u> |
|--|--------------------|

Set point for standby

Standby mode is usually used for daytime mode when people are absent.

If set point values are entered separately:

A starting set point value is defined as well as a temperature range in which the nominal value may be modified (operating display).

| | |
|--|------------------------|
| Initial heating/cooling set point (in 0.1°C) valid till 1st communication | -300...800; <u>210</u> |
| Min. object value heating/cooling (in 0.1°C) | -300...800; <u>160</u> |
| Max. object value heating/cooling (in 0.1°C) | -300...800; <u>280</u> |

If the comfort set point value is used as a basis:

If the comfort set point value is used as a basis, the deviation from this value is set.

| | |
|--|--------------------|
| Reduce nominal heating value (in 0.1°C) for heating | 0...200; <u>30</u> |
| Increase nominal cooling value\r\n (in 0.1°C) for cooling | 0...200; <u>30</u> |

Eco set point

Eco mode is usually used for night-time mode.

If set point values are entered separately:

A starting set point value is defined as well as a temperature range in which the nominal value may be modified (operating display).

| | |
|--|------------------------|
| Initial heating/cooling set point (in 0.1°C) valid till 1st communication | -300...800; <u>210</u> |
| Min. object value heating/cooling (in 0.1°C) | -300...800; <u>160</u> |
| Max. object value heating/cooling (in 0.1°C) | -300...800; <u>280</u> |

If the comfort set point value is used as a basis:

If the comfort set point value is used as a basis, the deviation from this value is set.

| | |
|--|--------------------|
| Reduce nominal heating value (in 0.1°C) for heating | 0...200; <u>50</u> |
| Increase nominal cooling value\r\n (in 0.1°C) for cooling | 0...200; <u>60</u> |

Set point values for frost/heat protection (building protection)

The building protection mode is used during longer absences. Set points for frost protection (heating) and heat protection (cooling) are determined which may not be modified from outside (no access via operating devices etc.). The building protection mode may be activated with delay, which allows you to leave the building before the controls switch to frost/heat protection mode.

| | |
|---|---|
| Nominal value frost protection\r\n (in 0,1°C) | -300...800; <u>70</u> |
| Nominal value heat protection (in 0,1°C) | -300...800; <u>350</u> |
| Activation delay | no • 5 s • ... • <u>5 min</u> • ... • 2 h |

General variables

This setting only appears in "heating *and* cooling" control mode. This is where you can decide whether to use a common variable for heating and cooling. If the 2nd level has a common variable, this is also where you determine the control mode of the 2nd level.

| | |
|---|---|
| For heating and cooling | <ul style="list-style-type: none"> • <u>separate variables are used</u> • common variables are used for Level 1 • common variables are used for Level 2 • common variables are used for Level 1+2 |
| Control type <i>only for level 2</i> | <ul style="list-style-type: none"> • 2-point control • PI control |
| Regulating variable of the 2nd Stage is on <i>only for level 2</i> | <ul style="list-style-type: none"> • <u>1-bit object</u> • 8-bit object |

Heating control level 1/2

If a heating control mode is configured, one or two setting sections for the heating levels are displayed.

On the 1st level, heating is controlled by a PI control which allows to either enter control parameters or select predetermined applications.

On the 2nd level (therefore only in case of a 2 level heating), heating is controlled via a PI or a 2-point-control.

On level 2, the set point deviation between the two levels must furthermore be determined, i. e. the lowest set point value from which the 2nd level is then added (when values fall below this set point).

| | |
|---|---|
| Set point difference between levels 1 and 2 (in 0.1 °C) <i>only for level 2</i> | 0...100; <u>40</u> |
| Control type <i>only for level 2 and if no common variables are used</i> | <ul style="list-style-type: none"> • 2-point control • PI control |

PI control with control parameters:

This setting allows individual input of the parameters for PI control.

| | |
|-------------------|--|
| Control type | <ul style="list-style-type: none"> • PI control |
| Set control using | <ul style="list-style-type: none"> • Controller parameter • Provided applications |

Determine the deviation from the set point value which reaches maximum variable value, i. e. the point at which maximum heating power is activated.

The reset time shows how quickly the heating reacts to deviations from the set point value. In case of a short reset time, the heating reacts with a fast increase of the variable. In case of a long reset time, the heating reacts somewhat more gently and needs longer until the necessary variable for the set point deviation is reached.

You should set the time appropriate to the heating system at this point (note manufacturer instructions).

| | |
|---|--------------------|
| Maximum control variable is reached at set point/actual difference of (in °C) | 0.. <u>5</u> |
| Reset time (in min) | 1...255; <u>30</u> |

Now determine what should be transmitted when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating.

Upon release, the control variable follows the rule again.

| | |
|---|--|
| When blocked, the variable shall | <ul style="list-style-type: none"> • <u>Not be transmitted</u> • Send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | 0...100 |

In case of a common variable for heating and cooling, 0 is always transmitted as a fixed value.

PI control with predetermined application:

This setting provides fixed parameters for frequent applications.

| | |
|---|--|
| Control type | • PI control |
| Set control using | <ul style="list-style-type: none"> • Controller parameter • Provided applications |
| Application | <ul style="list-style-type: none"> • Warm water heating • Floor heating • Convection unit • Electric heating |
| Maximum control variable is reached at set point/actual difference of (in °C) | Warm water heating: 5 Floor heating: 5 Convection unit: 4 Electric heating: 4 |
| Reset time (in min.) | Warm water heating: 150 Floor heating: 240 Convection unit: 90 Electric heating: 100 |

Now determine what should be transmitted when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating.

Upon release, the control variable follows the rule again.

| | |
|---|---|
| When blocked, the variable shall | <ul style="list-style-type: none"> • not be transmitted • send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | 0...100 |

In case of a common variable for heating and cooling, 0 is always transmitted as a fixed value.

2-point-rule (only level 2):

The 2-point-rule is used for systems which are only set to ON or OFF.

| | |
|---|--------------------------|
| Control type <i>is determined at a higher level for common variables</i> | • 2-point control |
|---|--------------------------|

Enter the hysteresis that prevents frequent on/off switching of temperatures in the threshold range. Then determine whether a 1 bit object (on/off) or an 8 bit object (on with percentage/off) should be used.

| | |
|---|---|
| Hysteresis (in 0.1°C) | 0...100; <u>20</u> |
| Actuating variable is a | <ul style="list-style-type: none"> • <u>1-bit object</u> • 8-bit object |
| Value (in %) <i>only for 8 bit objects</i> | 0... <u>100</u> |

Now determine what should be transmitted when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating.

Upon release, the control variable follows the rule again.

| | |
|---|---|
| When blocked, the variable shall | <ul style="list-style-type: none"> • not be transmitted • send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | <u>0</u> ...100 |

Cooling control level 1/2

If a cooling control mode is configured, one or two setting sections for the cooling levels are displayed.

On the 1st level, cooling is controlled by a PI control which allows to either enter control parameters or select predetermined applications.

On the 2nd level (therefore only in case of a 2 level cooling), cooling is controlled via a PI or a 2-point-control.

On level 2, the set point deviation between the two levels must furthermore be determined, i. e. the lowest set point value from which the 2nd level is then added (when values exceed this set point).

| | |
|--|---|
| Set point difference between levels 1 and 2 (in 0.1°C) <i>only for level 2</i> | 0...100; <u>40</u> |
| Control type <i>only for level 2 and if no common variables are used</i> | <ul style="list-style-type: none"> • 2-point control • PI control |

PI control with control parameters:

This setting allows individual input of the parameters for PI control.

| | |
|-------------------|--|
| Control type | • PI control |
| Set control using | <ul style="list-style-type: none"> • Controller parameter • Provided applications |

Determine the deviation from the set point value which reaches maximum variable value, i. e. the point at which maximum cooling power is activated.

The reset time shows how quickly the cooling reacts to deviations from the set point value. In case of a short reset time, the cooling reacts with a fast increase of the

variable. In case of a long reset time, the cooling reacts somewhat more gently and needs longer until the necessary variable for the set point deviation is reached. You should set the time appropriate to the cooling system at this point (note manufacturer instructions).

| | |
|---|--------------------|
| Maximum control variable is reached at set point/actual difference of (in °C) | 0... <u>5</u> |
| Reset time (in min.) | 1...255; <u>30</u> |

Now determine what should be transmitted when the control is blocked. Upon release, the control variable follows the rule again.

| | |
|---|--|
| When blocked, the variable shall | <ul style="list-style-type: none"> • <u>Not be transmitted</u> • Send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | <u>0</u> ...100 |

In case of a common variable for heating and cooling, 0 is always transmitted as a fixed value.

PI control with predetermined application:

This setting provides fixed parameters for a cooling ceiling

| | |
|---|--|
| Control type | • PI control |
| Set control using | • Controller parameter • Provided applications |
| Application | • Cooling ceiling |
| Maximum control variable is reached at set point/actual difference of (in °C) | Cooling ceiling: 5 |
| Reset time (in min.) | Cooling ceiling: 30 |

Now determine what should be transmitted when the control is blocked. Upon release, the control variable follows the rule again.

| | |
|---|---|
| When blocked, the variable shall | <ul style="list-style-type: none"> • Not be transmitted • Send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | <u>0</u> ...100 |

2-point-rule (only level 2):

The 2-point-rule is used for systems which are only set to ON or OFF.

| | |
|---|--------------------------|
| Control type <i>is determined at a higher level for common variables</i> | • 2-point control |
|---|--------------------------|

Enter the hysteresis that prevents frequent on/off switching of temperatures in the threshold range. Then determine whether a 1 bit object (on/off) or an 8 bit object (on with percentage/off) should be used.

| | |
|---|---|
| Hysteresis (in 0.1°C) | 0...100; <u>20</u> |
| Actuating variable is a | <ul style="list-style-type: none"> • <u>1-bit object</u> • 8-bit object |
| Value (in %) <i>only for 8 bit objects</i> | 0... <u>100</u> |

Now determine what should be transmitted when the control is blocked. Upon release, the control variable follows the rule again.

| | |
|---|---|
| When blocked, the variable shall | <ul style="list-style-type: none"> • Not be transmitted • Send a specific value |
| Value (in %) <i>only if a value is transmitted</i> | <u>0</u> ...100 |

In case of a common variable for heating and cooling, 0 is always transmitted as a fixed value.

6. Additional settings (ETS)

6.1. Interfaces

Mechanical buttons or temperature sensors may be connected to the four analogue/digital inputs of the **Corlo Touch KNX**. The configuration is done via the menu.

ETS: Interfaces

Activate the interfaces you want to use.

| | |
|-----------------------------|-----------------|
| Use interface 1 / 2 / 3 / 4 | <u>No</u> • Yes |
|-----------------------------|-----------------|

6.1.1. Interface 1-4

Choose a function:

| | |
|--------------|--|
| Bus function | <ul style="list-style-type: none"> • <u>Switch</u> • Changeover switch • Shutter • Roller blind • Awning • Window • Dimmer • 8-bit encoder • 16-bit encoder • Scene load • T-NTC temperature sensor |
|--------------|--|

Input as switch:

If a button with switch function is assigned to the input, select the bus function "Switch" and specify which value is sent when pressing/releasing the button and when it will be sent.

| | |
|---|---|
| Bus function | Switch |
| Command when pressing the button | <ul style="list-style-type: none"> • send 0 • send 1 • do not send telegram |
| Command when releasing the button | <ul style="list-style-type: none"> • send 0 • send 1 • do not send telegram |
| Send value | <ul style="list-style-type: none"> • <u>on change</u> • for change to 1 • for change to 0 • for change and cyclical • for change to 1 and cyclical • for change to 0 and cyclical |
| Send all values (only if sent as "cyclical") | 5 sec ... 2 hrs |

Input as selector switch:


If a button with switch function is assigned to the input, select the bus function "Selector switch" and specify which value is sent when pressing and which when releasing the button.

| | |
|-----------------------------------|---|
| Bus function | Selector switch |
| Command when pressing the button | Selector switch • do not send telegram |
| Command when releasing the button | Selector switch • do not send telegram |

Input to shutter, blinds, awning or window control:

If the input to the drive control is used via the bus, select the bus function "shutter", "awning", "blinds" or "window" and specify the button function and control mode.

| | | |
|-----------------|---|---|
| Bus function | Shutter / blinds / awning / window | |
| Button function | <u>Up</u> • Down <u>Up</u> • Down • Up/ Down <u>On</u> • Off • On/Off <u>Open</u> • Closed • Open/Closed | (shutter) (blinds) (awning) (window) |
| Control mode* | • <u>Standard</u> • Standard inverted • Comfort mode • Dead man's switch | |

* For further details about settings, please see  *Control modes for drive control*, Page 140

Input as dimmer:

If the input is used as a dimmer, select the bus function "Dimmer" and specify the button function, time interval (switching/dimming) and if requested, the repeat interval for a long button press.

| | |
|---|---|
| Bus function | Dimmer |
| Button function | <u>brighter</u> • darker • brighter/darker |
| Time between switching and dimming in 0.1 seconds | 1...50; <u>5</u> |
| Repeat the dimm command | <u>no</u> • yes |
| Repeat the dimm command for a long button press (only if dimm command is repeated) | every 0.1 s • every 2 sec; <u>every 1 sec</u> |
| Dim by (only if dimm command is repeated) | 1,50% • 3% • <u>6 %</u> • 12,50% • 25% • 50% |

Input 8 bit encoder:

If the input is to be used as an 8bit encoder, select the "8 bit encoder" bus function and specify which value will be sent.

| | |
|--------------|------------------------------|
| Bus function | 8 bit encoder |
| Value | -6707600...6707600; <u>0</u> |

Input 16 bit encoder:

If the input is to be used as a 16bit encoder, select the "16 bit encoder" bus function and specify which value will be sent.

| | |
|--------------|------------------------------|
| Bus function | 16 bit encoder |
| Value | -6707600...6707600; <u>0</u> |

Input for scene control:

If the input is to be used for recalling and saving a scene, select the bus function "scene call-up" and decide whether the button should be used to save the scene as well (keep pressed for longer).

| | |
|--|--|
| Bus function | Scene load |
| Scene no. | <u>0</u> ...63 |
| Scene function | <ul style="list-style-type: none"> • <u>Activate</u> • Activate and save |
| Press key for longer than (in 0.1 s) --> Scene saving <i>only for saving</i> | 1... <u>50</u> |

Temperature sensor

If a temperature sensor T-NTC is connected to the input, set the behaviour (malfunction object, transmission behaviour) and mixed-value calculation here. If the measuring values of the sensor should deviate from the actual temperature values (e. g. in case the installation site is not in an ideal position), this may be offset and corrected.

| | |
|---|--|
| Bus function | Temperature sensor (NTC) |
| Use malfunction object | Yes • <u>No</u> |
| Offset in 0.1°C | -50...50; <u>0</u> |
| Use external measured value | Yes • <u>No</u> |
| Ext. Meas. value ratio of the total value <i>only if an external value is used</i> | 5% • ... • <u>50%</u> • ... • 100% |
| All of the following settings then pertain to the total measuring value | |
| Transmit behaviour | <ul style="list-style-type: none"> • periodically • <u>on change</u> • on change and periodically |

| | |
|--|--|
| On change of <i>if transmitted on change</i> | 0.1°C • ... • <u>0.5°C</u> • ... • 5.0°C |
| Transmission cycle <i>if transmitted periodically</i> | <u>5 s</u> ...2 h |

Control modes for drive control

Behaviour on button actuation in standard control mode:

| | Short: | Press and hold: |
|---------|---------------|------------------------|
| Shutter | Stop/step | Up |
| Blind | Up | Stop |
| Awning | Stop | Retract |
| Window | Stop | Close |

Standard:

If briefly operated, the drive will move incrementally or stops. If operated longer, the drive will move up to the end position. The time difference between "short" and "long" is set individually.

| | |
|--|-------------------|
| Control mode | Standard |
| Behaviour during button operation: short = stop/increment long = Up or Down | |
| Time between short and long in 0.1 seconds | 1...50; <u>10</u> |

• **Standard inverted**

When pushed shortly, the drive moves up to the end position. When pushed for longer, the drive moves incrementally or stops. The time difference between "short" and "long" and the repeat interval is set individually.

| | |
|---|---|
| Control mode | • Standard inverted |
| Behaviour during button operation: short = Up or Down long = Stop/Step | |
| Time between short and long in 0.1 seconds | 1...50; <u>10</u> |
| Repeat the step command for a long button press | every 0.1 s • every 2 sec; <u>every 0.5 sec</u> |

• **Comfort mode**

In the **comfort mode** pushing the button briefly, a bit longer and long will trigger different responses of the drive. The time intervals are set individually.

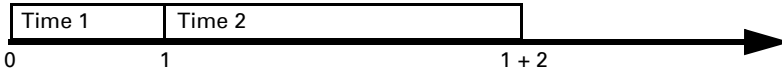
By pushing the button (shorter than adjustable time 1) the drive will be positioned (and stopped) incrementally.

If the drive is to be moved a bit farther, then a little longer push is needed (longer than time 1 but shorter than time 1+2). The drive stops immediately when releasing the button.

If the drive must be moved independently into the end position, the button is released only after times 1 and 2 have expired. The move can be stopped by briefly pushing.

Fig. 9

Time interval comfort mode diagram



Point in time 0:

Push of button, start of time 1

Release before time 1 expired:

step (or stop if drive is moving)

Point in time 1:

End of time 1, start of time 2
Moving command

Release after time 1 expired
but before time 2 expires:

Stop

Release after time 1 + 2 expired:

Move into end position

| | |
|---|------------------------------|
| Control mode | • Comfort mode |
| Behaviour during button operation: Button is pushed and released before time 1 expired = stop/step held longer than time 1 = Up or Down released between time 1 and 1-2= stop released after time 1 +2 = no more stop | |
| Time 1 | 0.0s ... • 2 s; <u>0.4 s</u> |
| Time 2 | 0 s • 2 s; <u>2 s</u> |

• **Dead man's switch**

The drive moves as soon as the button is pushed and stops as soon as the button is released.

| | |
|---|----------------------------|
| Control mode | • Dead man's switch |
| Behaviour during button operation: Push button = Up or Down command Release button = Stop command | |

6.2. Temperature threshold values

The **Display Corlo Touch KNX** can evaluate the temperature readings (e. g. from a T-NTC at an input) using the temperature threshold values and then activate output objects accordingly.

ETS: Temperature thresholds

Activate the necessary temperature threshold values.

| | |
|----------------------------|-----------------|
| Use threshold values 1 - 4 | <u>No</u> • Yes |
|----------------------------|-----------------|

6.2.1. Threshold values 1-4

Threshold value:

The threshold value may be set via parameters, i. e. directly in the menu.

ETS: Temperature thresholds > threshold value 1...4

or via communication objects (object no. 922-23/929-30/936-37/943-44).

| | |
|-----------------------------|--|
| Threshold value setting via | <ul style="list-style-type: none"> • <u>Parameter</u> • Communication object |
|-----------------------------|--|

Threshold value setting via parameter:

| | |
|--|--------------------------|
| Threshold value in 0.1°C | -300 ... 800; <u>200</u> |
| Hysteresis of the threshold value in % | 0 ... 50; <u>20</u> |

Threshold value setting via communications object:

The object value is limited here, and the type of threshold value modification selected (reception of an absolute value or increase/decrease of the current value).

| | |
|---|---|
| The last communicated value should be retained | <ul style="list-style-type: none"> • <u>Not</u> • After voltage recovery • After voltage recovery and programming (attention: do not use for first start-up) |
| Start value valid till 1st communication <i>not if value remains intact during programming</i> | |
| Object value limit (min) in 0.1°C | <u>-300</u> ... 800 |
| Object value limit (max) in 0.1°C | -300 ... <u>800</u> |
| Type of threshold value change | <ul style="list-style-type: none"> • Absolute value • Increase / Decrease |
| Step-by-step <i>only when increasing/decreasing</i> | <u>0.1°C</u> • ... • 5°C |
| Hysteresis of the threshold value in % | 0 ... 50; <u>20</u> |

Switching output:

Set reaction, delay and transmission behaviour for the output

| | |
|--|---|
| Output is at (TV = threshold value) | <ul style="list-style-type: none"> • <u>TV above = 1</u> TV - Hyst. below = 0 • TV above = 0 TV - Hyst. below = 1 • TV above = 1 TV - Hyst. below = 0 • TV above = 0 TV - Hyst. below = 1 |
| Delays can be set via objects (in seconds) | <u>No</u> • Yes |

| | |
|--|--|
| Delay from 0 to 1 <i>if objects are delayed via "yes" objects: valid till 1st communication</i> | <u>No</u> • 5 s • ... • 2 h |
| Delay from 1 to 0 <i>if objects are delayed via "yes" objects: valid till 1st communication</i> | <u>No</u> • 5 s • ... • 2 h |
| Switching output transmits | <ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically |
| cycle | <u>5 s</u> • ... • 2 h |

Block

| | |
|----------------------------|-----------------|
| Use switching output block | <u>No</u> • Yes |
|----------------------------|-----------------|

If the block is used:

Enter the behaviour, the value before 1st communication and the blocking action. The setting options for the release action depend on the parameter value "switching output sending ..." (see "switching output")

| | |
|---|---|
| Evaluation of the blocking object | <ul style="list-style-type: none"> • <u>at value 1: block at value 0: release</u> • at value 0: block at value 1: release |
| Value of the blocking object before 1st communication | <u>0</u> • 1 |
| Action when locking | <ul style="list-style-type: none"> • <u>do not transmit message</u> • transmit 0 • transmit 1 |
| Action upon release (with 2 seconds release delay) | <ul style="list-style-type: none"> • <u>do not transmit message</u> • Transmit switching output status |

6.3. Scenario control

Set up the scenes that may then be called up (and be modified) via objects.

ETS: Scene control

First, activate the required number of scene objects (up to 16 objects, no. 821-836).

| | |
|--------------------------|------------|
| Use scene objects 1 - 16 | Yes |
|--------------------------|------------|

6.3.1. Scene objects 1 - 16

Define the individual scene objects (e. g. sending an 8 bit value in % to address the light dimming actuator in the living room). The scene objects have to be linked to the respective actuator inputs.

| | |
|---|--|
| After reset, last received value should | <ul style="list-style-type: none"> • <u>Not be retained</u> • Retained |
| Object type | <ul style="list-style-type: none"> • 1 bit • 8 bit [0...255] • <u>8 Bit in % [0...100]</u> • 8 Bit in ° [0...360] • 16-bit floating point [-6707600...+6707600] |

Those scene objects (e. g. the dimming linked to the living room light) can now be assigned to the individual scenes (1...16) and a value be defined. This makes it possible to use a link more than once (e. g. dimming to 20% for the "watching TV" scene, and to 60% for the "guests" scene).

| | |
|---|------------------------------|
| Use scene 1 - 16 | <u>No</u> • Yes |
| When a scene is used, the following values appear: | |
| Value for "1-bit object type" | <u>0</u> • 1 |
| Value for "8-bit object type [0...255]" | <u>0</u> ...255 |
| Value for "8-bit object type in %[0...100]" | <u>0</u> ...100 |
| Value for "8-bit object type in ° [0...360]" | <u>0</u> ...360 |
| Value (in 0.1) for "16-bit floating comma object type" | -6707600...6707600; <u>0</u> |

6.4. Logic (ETS)

The **Corlo Touch KNX** provides 16 logistics inputs, four logic gates with AND and four with OR.

ETS: Logic

Activate the logic inputs and assign object values up to 1st communication.

| | |
|---|-----------------|
| Use logic inputs | Yes • <u>No</u> |
| Object value prior to 1. communication for: | |
| - Logic inputs 1...16 | <u>0</u> • 1 |

Activate the required logic outputs.

AND Logic:

| | |
|------------------------|----------------------------|
| AND logic output 1...4 | <u>Not active</u> • Active |
|------------------------|----------------------------|

OR Logic:

| | |
|-----------------------|----------------------------|
| OR logic output 1...4 | <u>Not active</u> • Active |
|-----------------------|----------------------------|

6.4.1. AND logic outputs 1/2/3/4 and OR logic outputs 1/2/3/4

The same setting options are available for AND and OR logic.

Each logic output may transmit one 1 bit or two 8 bit objects. Determine what the output should send if logic = 1 and = 0.

| | |
|-------------------------|--|
| 1. / 2. / 3. / 4. Input | <ul style="list-style-type: none"> • <u>Do not use</u> - Logic inputs 1...16 - Logic inputs 1...16 inverted |
| Logic output transmits | <ul style="list-style-type: none"> • <u>one 1-bit object</u> • two 8-bit objects |

Logic output transmits a 1 bit object:

| | |
|-----------------------------|-----------------------|
| Logic output transmits | a 1-bit object |
| if logic = 1 → object value | <u>1</u> • 0 |
| if logic = 0 → object value | 1 • <u>0</u> |

Logic output transmits two 8 bit objects:

| | |
|-------------------------------|---|
| Logic output transmits | two 8-bit objects |
| Object type | <ul style="list-style-type: none"> • <u>Value</u> [0...255] • Percent [0...100%] • Angle [0...360°] • Scene call-up [0...127] |
| if logic = 1 → object A value | 0 ... 255 / 100% / 360° / 127; <u>1</u> |
| if logic = 0 → object A value | 0 ... 255 / 100% / 360° / 127; <u>0</u> |
| if logic = 1 → object B value | 0 ... 255 / 100% / 360° / 127; <u>1</u> |
| if logic = 0 → object B value | 0 ... 255 / 100% / 360° / 127; <u>0</u> |

Example: Objects for shading control

Object A: Shade position Height (0 = safe position, 255 = fully extended).

Object B: Shade position slat angle (255 = 100% closed, 200 = approx. 80% closed).

| | |
|---|---|
| Transmit behaviour | <ul style="list-style-type: none"> • <u>on change of logic</u> • on change of logic to 1 • on change of logic to 0 • on change of logic and periodically • on change of logic to 1 and periodically • on change of logic to 0 and periodically • on change of logic+object receipt • on change of logic+object receipt and periodically |
| Transmit cycle (if transmitted periodically) | 5 s • <u>10 s</u> • ... • 2 h |

Block:

Enter the behaviour, the value before 1st communication and the blocking action.

| | |
|--|--|
| Evaluation of the blocking object | <ul style="list-style-type: none"> • <u>1 = block</u> 0 = release • 0 = block 1 = release |
| Blocking object value before 1st communication | <u>0</u> • 1 |
| Behaviour of the switching output | |
| On block | <ul style="list-style-type: none"> • <u>do not transmit message</u> • transmit value for logic = 0 • transmit value for logic = 1 |
| On release (with 2 seconds release delay) | [Dependent on the "Switching output transmits" setting] |

The setting options for the release behaviour depend on the parameter value "switching output sending ..." (see "switching output")

| | |
|--|---|
| Switching output transmits on change | <ul style="list-style-type: none"> • <u>do not transmit message</u> • transmit value for current logic status |
| Switching output transmits on change to 1 | <ul style="list-style-type: none"> • <u>do not transmit message</u> • if logic = 1 → transmit value for 1 |
| Switching output transmits on change to 0 | <ul style="list-style-type: none"> • <u>do not transmit message</u> • if logic = 0 → transmit value for 0 |
| Switching output transmits upon change and periodically | Transmit value for current logic status |
| Switching output transmits upon change to 1 and periodically | • if logic = 1 → transmit value for 1 |
| Switching output transmits upon change to 0 and periodically | • if logic = 0 → transmit value for 0 |
| Switching output transmits upon change and object receipt | <ul style="list-style-type: none"> • <u>do not transmit message</u> • transmit value for current logic status |
| Switching output transmits upon change and object receipt and periodically | Transmit value for current logic status |

