

elsner | academy



BLIND CONTROL WITH KNX WEATHER STATIONS

Fast, easy and KNX Secure

Martin Speer & Karim Bou Diab | 20.05.2026



Martin Speer

- Product Manager
- Practical experience as KNX system integrator and in sales

» We are
your
speakers
today!



Karim Bou Diab

- Application Engineer
- KNX & product applications support

Windancer KNX

| Short Promotional Video



Watch video on YouTube ▶

AGENDA

1. Elsner Elektronik Profile
2. Weather Stations Overview
3. Windancer – Sensors and Features
4. Installation & Connection, and Accessories
5. KNX Application, Parameters
6. KNX-Secure
7. Application Examples
8. Smart Linking



01 | COMPANY PROFILE



Weather stations & outdoor sensors from the experts!

| Company Profile

- Products and solutions for intelligent buildings and a smart home
- Internationally known for weather stations and sensor technology
- Over 30 years of expertise dedicated to creating safe and comfortable living spaces for the future
- Focus on open standards: KNX, as well as Modbus, RS485, DALI, Bacnet, and conventional control technology
- Sustainable quality “Made in Germany”
- Family-owned with a collaborative ecosystem



[More about Elsner Elektronik ▶](#)

02 | WEATHER STATIONS OVERVIEW

KNX Weather Stations

| Overview



Suntracer KNX pro

- High performance
- Ultrasonic technology
- Additional wind direction measurement
- Automates up to 12 façades



Windancer 2.0 (GPS) KNX sec

- Mechanical wind sensor
- GPS optional
- Conventional applications
- Power supply via KNX bus possible



Suntracer KNX (light, basic)

- Wide spectrum
- Electronic wind measurement
- Scalable shading functions



P04-KNX-GPS

- Measured value transmitter
- Without automation and logic
- Efficient application

03 | WINDANCER – SENSORS & FUNCTION



Weather station Windancer

| Measurement Parameters and Applications

Physical Measured Values

- Brightness – 3 Sensors
- Wind
- Precipitation
- Temperature
- Time Synchronization / GPS on Windancer KNX-GPS

Application

- Logic gates
- Façade control at Windancer KNX-GPS



Weather station Windancer 2.0 (GPS) KNX sec

| Product Update

- Starting in June 2026 => **2.0**
- Proven and robust hardware – used thousands of times
- Powerful Application
- Enhanced ETS functionality
- New intuitive programming – Comprehensive context-sensitive help & semantics
- Live data preset
- KNX Secure



Weather station Windancer



| Product Update

Name	Item Number	List price €		
		Previous	Phase-out*	New**
Windancer KNX	71235	478,00	278,32	
Windancer KNX GPS	71236	584,00	340,84	
Windancer 2.0 KNX sec	71238			347,90
Windancer 2.0 KNX GPS sec	71239			426,05

* while stocks last

** from June

from
347,90€



Windancer 2.0 GPS KNX sec



| Item number: 71239 (GPS)

Automation using weather station with location determination (GPS)

- Automatic shading control using, for ex. Windancer 2.0 GPS KNX sec
- With slat tracking and/or shadow edge function
- Integrate location data (azimuth/elevation-guided) via GPS signal automatically or manual input
- Brightness value: maximum value formation using 3 sensors
- 3x Twilight threshold values
- Time signal usable for further automations and time programs



Windancer 2.0 KNX sec

| Item number : 71238

Automation using weather station without location determination

- Automatic shading control using, for ex., Windancer KNX
- without slat tracking and/or shadow edge function
- Brightness value using 3 separate brightness sensors
- Brightness threshold 3x direction-dependent – 9x
- 3x Twilight threshold values
- Adjusting to a predefined blind height (top, middle, bottom) and slat position



Windancer basic W KNX sec

| Item number: 71290, 71291

Physical Measured Values

- Wind

Application

- Four wind threshold values
- Logic gates
- Secure

Color variants

- White
- Dark-grey RAL 7043



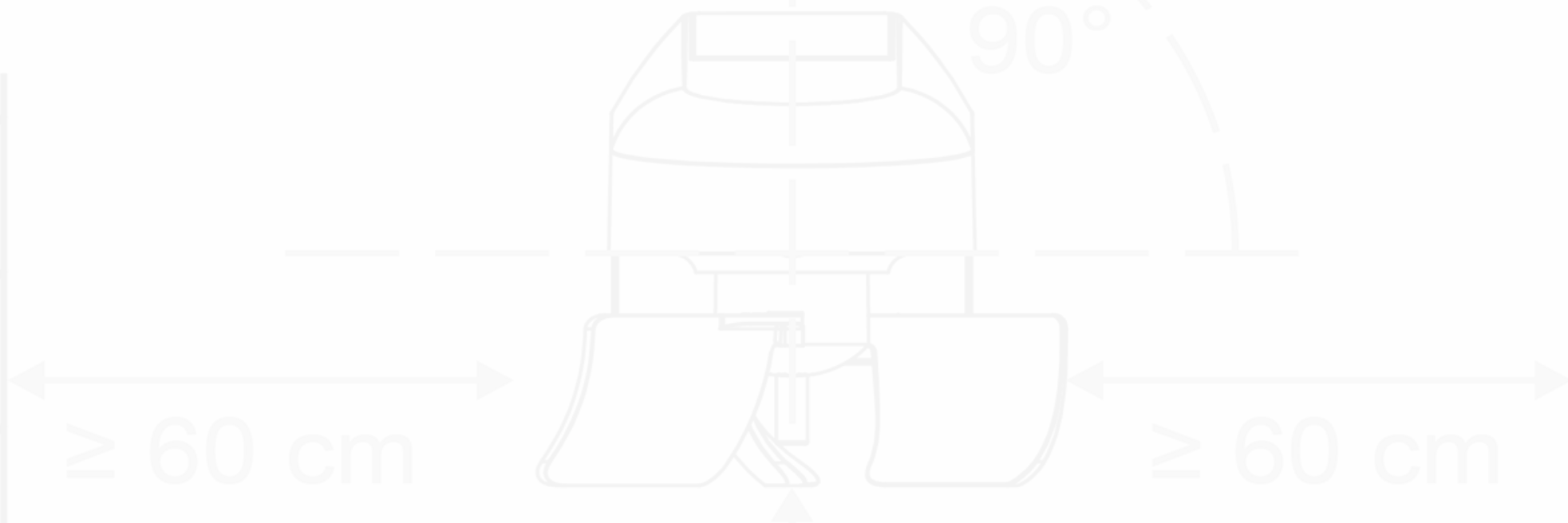
Parameterization

| Live ETS



We will now demonstrate
the parameterization live

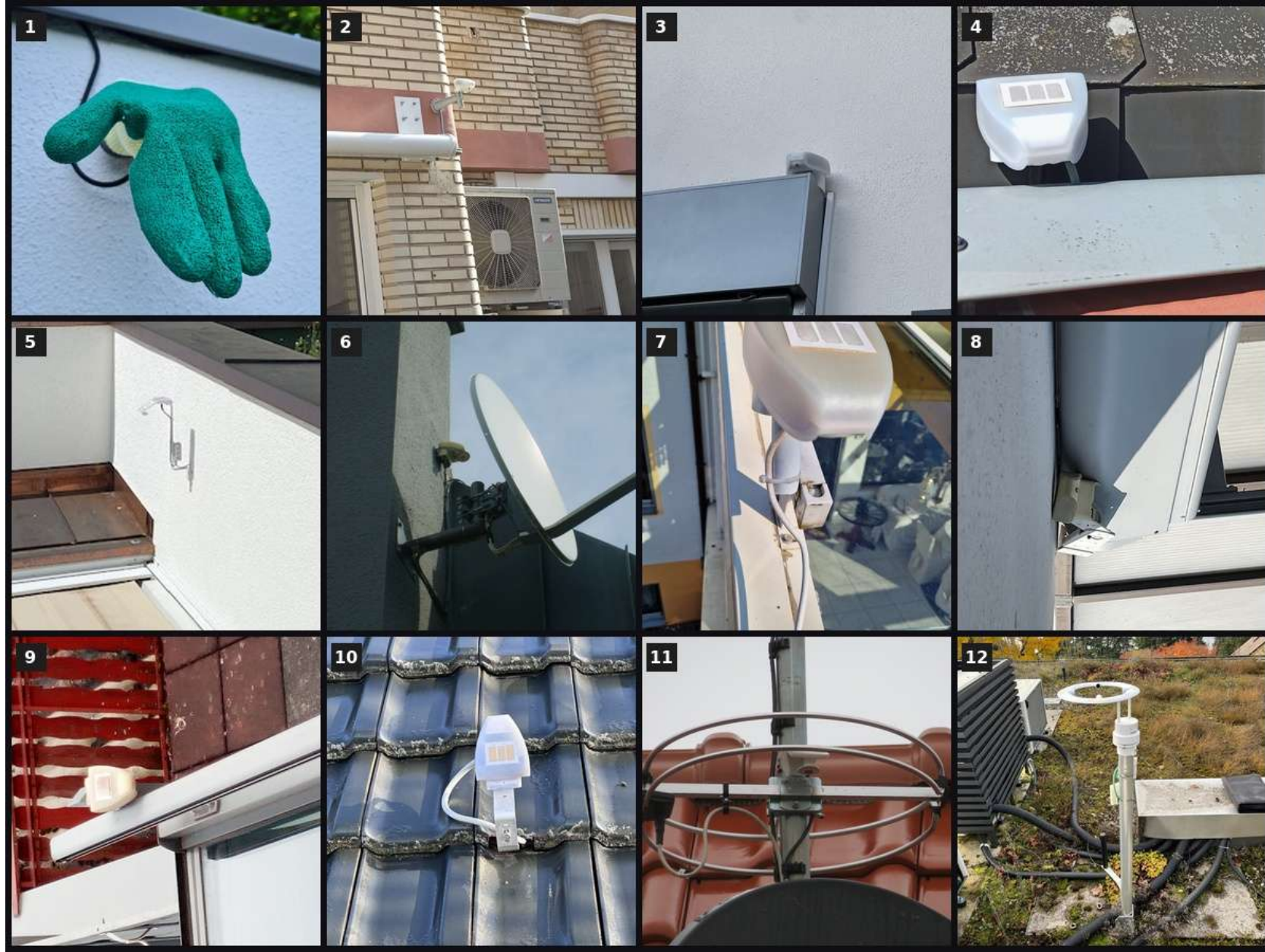
04 | INSTALLATION AND CONNECTION



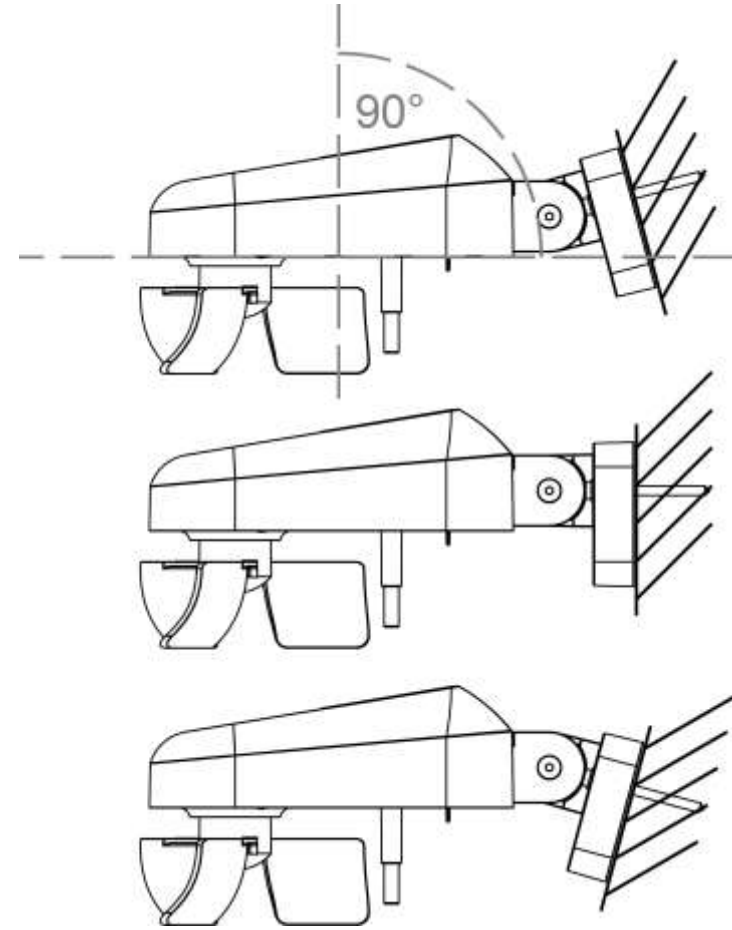
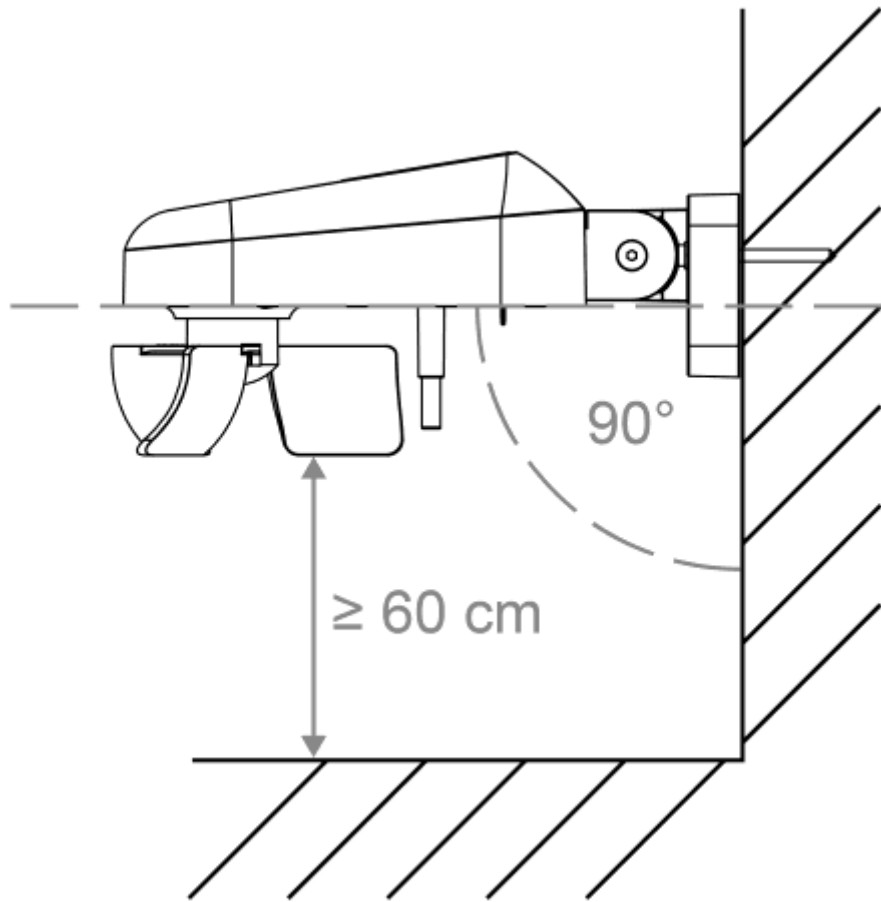
Which weather station is installed correctly?

| Overview of Common Mounting Errors

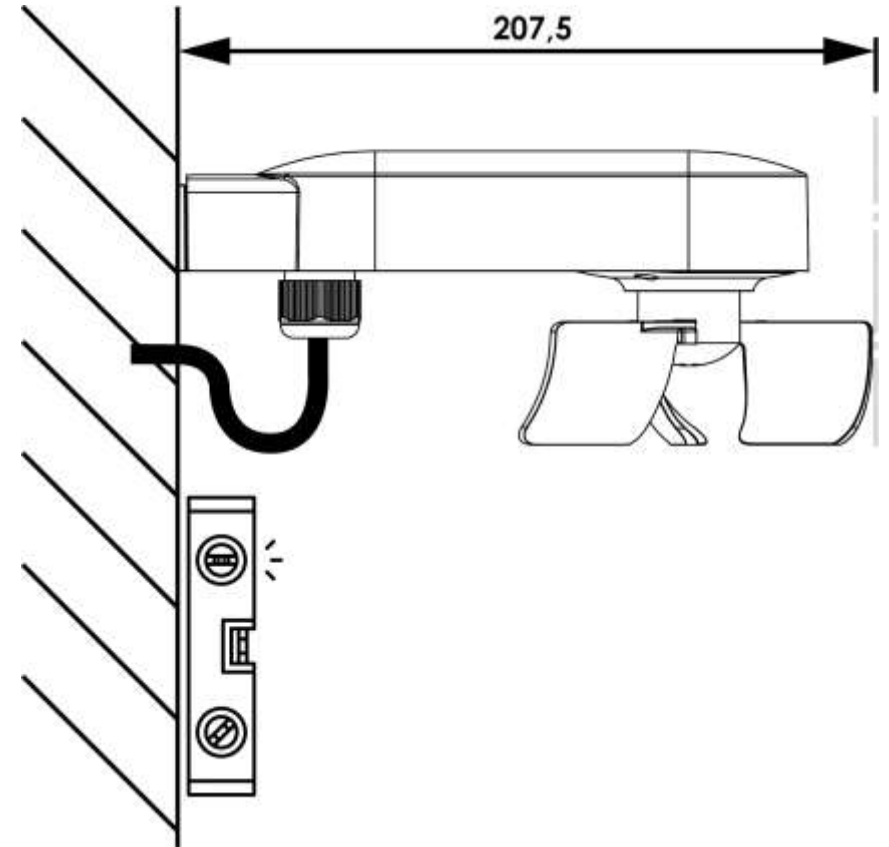
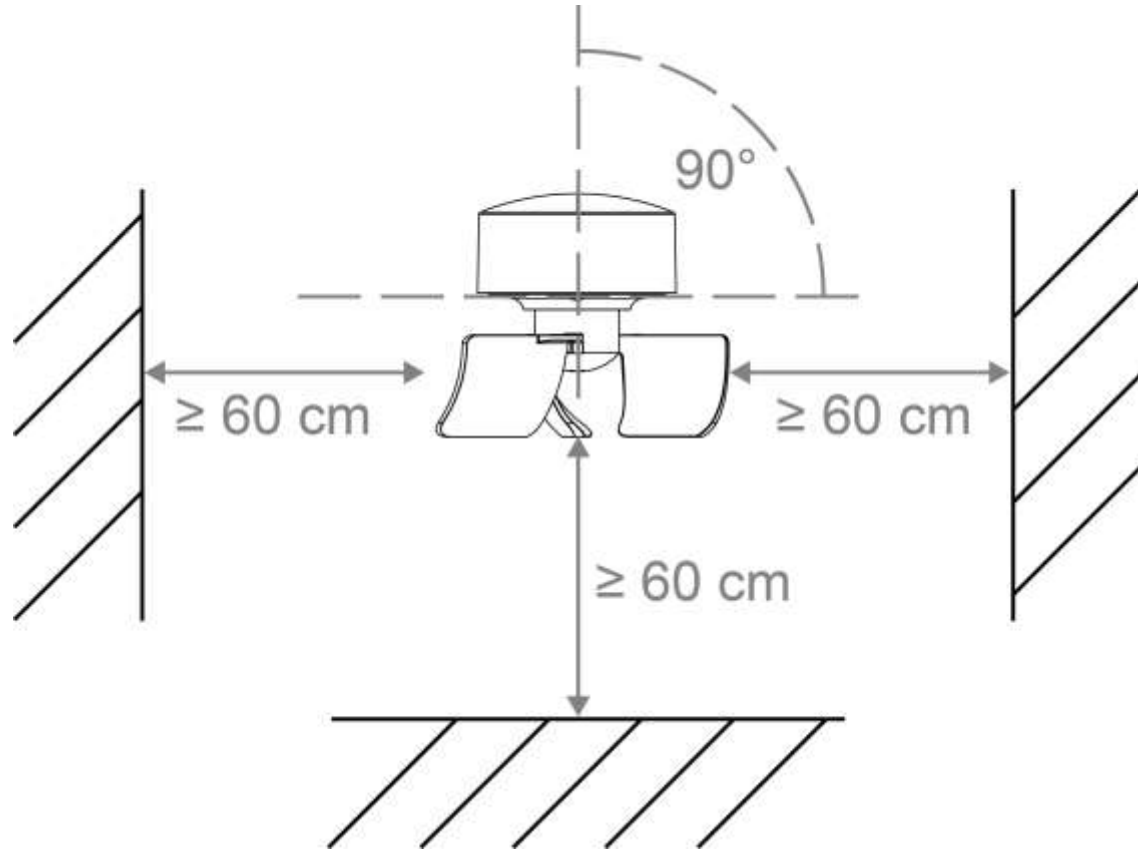
➤ None of the images show the correct mounting



Mounting Windancer 2.0 KNX sec

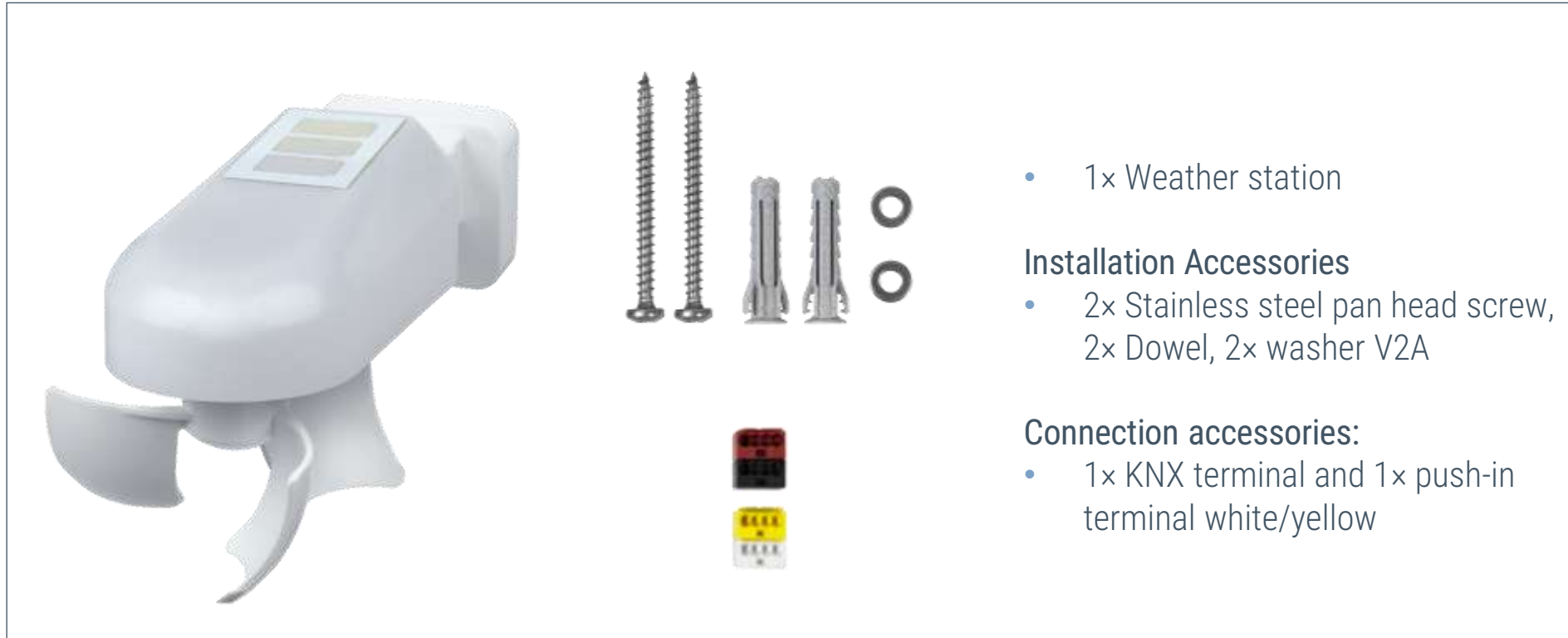


Mounting Windancer basic W KNX sec



Installation Accessories

| What's included in Windancer 2.0 KNX sec



- 1x Weather station

Installation Accessories

- 2x Stainless steel pan head screw,
2x Dowel, 2x washer V2A

Connection accessories:

- 1x KNX terminal and 1x push-in
terminal white/yellow

Information for Windancer basic W KNX sec

- No separate accessories
- Everything pre-assembled / screws inserted

Installation Accessories

| Optional Accessories



Optional Accessories

- Arm Fix
- Arm L
- Fix P

Windancer



05 | KNX PARAMETERS

KNX application: Threshold value wind

ETS

1.1.1 Windancer KNX-GPS > Wind threshold value 1

General settings	Threshold value: -----
GPS settings	Threshold value setpoint per <input checked="" type="radio"/> Parameter <input type="radio"/> Communication objects
Location	Threshold value in 0.1 m/s <input type="text" value="70"/>
Rain	Switching distance (hysteresis) of the threshold value in % <input type="text" value="20"/>
Night	Switching output: -----
Temperature	Output is at (TV = threshold value) (SD = Switching distance) <input type="text" value="TV above = 1 TV - SD below = 0"/>
Wind	Delays can be set via objects (in seconds) <input checked="" type="radio"/> No <input type="radio"/> Yes
Wind threshold value 1	Switching delay from 0 to 1 <input type="text" value="5 sec"/>
Brightness	Switching delay from 1 to 0 <input type="text" value="5 min"/>
Dawn	Switching output sends <input type="text" value="on change and periodically"/>
Shading	Send cycle <input type="text" value="10 min"/>
Façade 1 settings	Blocking: -----
Façade 1 Actions	Use block of the switching output <input checked="" type="radio"/> No <input type="radio"/> Yes
Calendar time switch	
Weekly time switch	
Logic	



KNX application: Brightness threshold value

ETS

1.1.1 Windancer KNX-GPS > Dawn of the threshold value 1

General settings	Threshold value: -----
GPS settings	Threshold value setpoint per <input checked="" type="radio"/> Parameter <input type="radio"/> Communication objects
Location	Threshold value in lux <input type="text" value="200"/>
Rain	Switching distance (hysteresis) of the threshold value in % <input type="text" value="20"/>
Night	Switching output: -----
Temperature	Output is at (TV = threshold value) (SD = Switching distance) <input type="text" value="TV above = 1 TV - SD below = 0"/>
Wind	Delays can be set via objects (in seconds) <input checked="" type="radio"/> No <input type="radio"/> Yes
Wind threshold value 1	Switching delay from 0 to 1 <input type="text" value="none"/>
Brightness	Switching delay from 1 to 0 <input type="text" value="none"/>
Dawn	Switching output sends <input type="text" value="on change"/>



Dawn of the threshold value 1

Shading	Blocking: -----
Façade 1 settings	Use block of the switching output <input checked="" type="radio"/> No <input type="radio"/> Yes
Façade 1 Actions	
Calendar time switch	
Weekly time switch	
Logic	
AND logic 1	

KNX application: Façade control 1/2

ETS

1.1.1 Windancer KNX-GPS > **Façade 1 Actions**

General settings	If for more than	5 min
GPS settings	Is light enough (brightness condition fulfilled)	
Location	AND	
Rain	the sun is shining on the façade (sun position condition fulfilled)	
Night	Then:	
Temperature	--> Object "Façade 1 status" = 1	
Wind	--> Movement position	100 %
Wind threshold value 1	--> Slat position	75 %
Brightness	If it is not bright enough	for more than 10 min
Dawn	Then:	
Dawn of the threshold value 1	Change movement position	<input checked="" type="radio"/> No <input type="radio"/> Yes
Shading	Change slat position	<input type="radio"/> No <input checked="" type="radio"/> Yes
Façade 1 settings	--> Slat position	0 %
	If afterwards	30 min
Façade 1 Actions	it is still not bright enough	
Calendar time switch	OR	
Weekly time switch	the sun is no longer shining on the façade	
Logic	Then:	
AND logic 1	Object "Façade 1 status" = 0	
	Change movement position	<input type="radio"/> No <input checked="" type="radio"/> Yes
	--> Movement position	0 %
	Change slat position	<input type="radio"/> No <input checked="" type="radio"/> Yes
	--> Slat position	0 %



KNX application: Façade control 2/2

ETS

1.1.1 Windancer KNX-GPS > Façade 1 Actions

General settings	Then: Object "Façade 1 status" = 0
GPS settings	Change movement position <input type="radio"/> No <input checked="" type="radio"/> Yes
Location	--> Movement position: 0 %
Rain	Change slat position <input type="radio"/> No <input checked="" type="radio"/> Yes
Night	--> Slat position: 0 %
Temperature	Transmission behaviour of the objects:
Wind	Movement position and slat position: <input checked="" type="radio"/> send in case of change <input type="radio"/> send in case of change and cyclically
Wind threshold value 1	Object "Façade 1 status" transmits: on change
Brightness	
Down	Heat protection
Down of the threshold value 1	Use heat protection <input type="radio"/> No <input checked="" type="radio"/> Yes
Shading	Actuation position: 100 %
Façade 1 settings	Slat position: 100 %
Façade 1 Actions	
Calendar time switch	Block and safety
Weekly time switch	Behaviour after block: <input checked="" type="radio"/> react to the last automatic command <input type="radio"/> wait for the next automatic command
Logic	Blocking object value before T. communication: <input checked="" type="radio"/> 0 <input type="radio"/> 1
AND logic 1	Use safety (lower priority than block) <input type="radio"/> No <input checked="" type="radio"/> Yes
	Action for safety = 1: <input checked="" type="radio"/> do not send positions <input type="radio"/> move to safe position (0% / 0%)
	Action for safety = 0: <input checked="" type="radio"/> react to the last automatic command <input type="radio"/> wait for the next automatic command

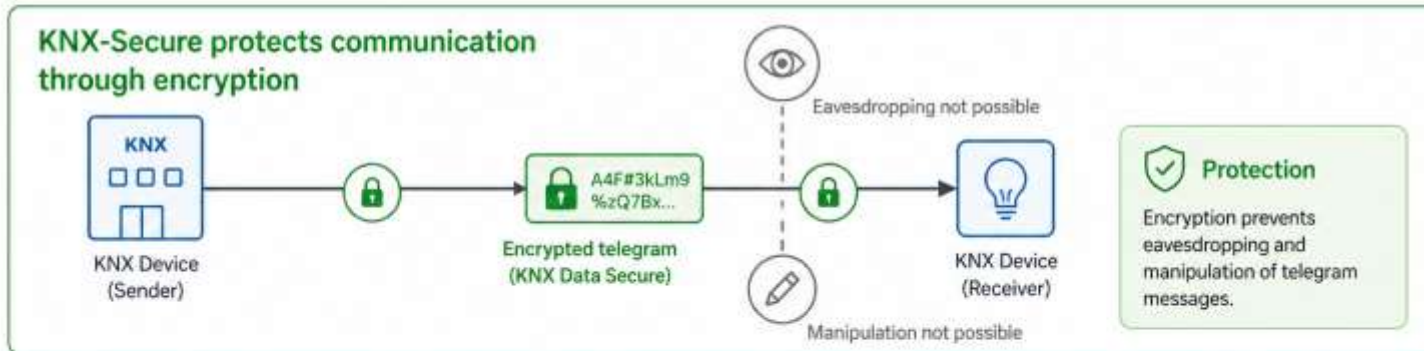
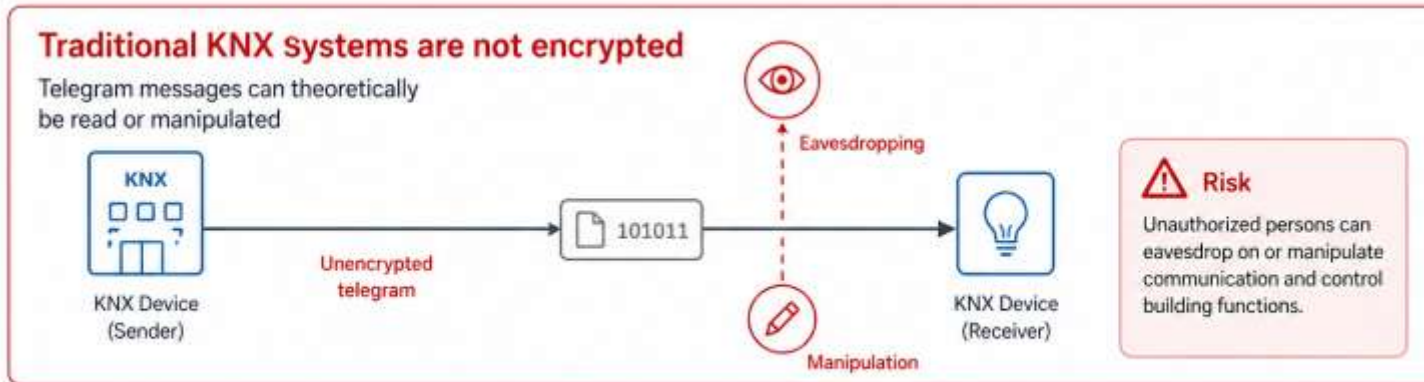


06 | KNX Secure



Why KNX Data Secure?

| Security starts with communication



- Classic KNX systems are not encrypted
- Telegrams can theoretically be read or manipulated
- KNX Secure protects communication through encryption
- **Goal:** Protection against unauthorized access to building systems

Which legal requirements make KNX Secure necessary?

| The most important regulations include:



- EU NIS 2 Directive
- GDPR (General Data Protection Regulation)
- Cyber Resilience Act
- IT Security Act 2.0 (Germany)

In which buildings is Data Secure required?

| Application fields for secure smart building data structures

KNX Data Secure – Application Areas

Secure building communication against cyber threats – from inside and outside.



GOAL
Protect building functions from unauthorized access – for more security, availability and trust.

Security Availability Trust For all building types

- Residential buildings with remote access (Smart Home)
- Commercial and office buildings
- Hotels and hospitality sector
- Public buildings (schools, authorities)
- Critical infrastructure (depending on project requirements)

FDSK/QR Codes:

| Correct handling of QR code stickers

What happens if QR codes are missing?

- Device may no longer be able to be commissioned
- No secure download possible
- Oft nur Reset oder Austausch als Lösung

Tips: Handling QR codes

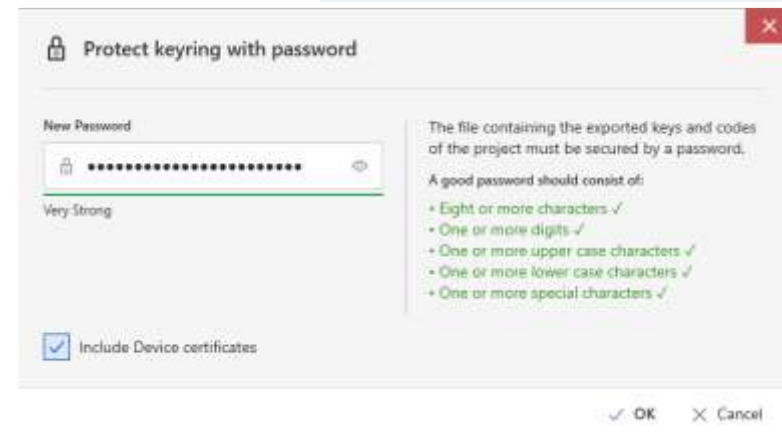
- Scan QR codes before installation
- Import into ETS (or save as PDF)
- Take photo and archive digitally
- Remove sticker from device but do not discard!



Tips for securing KNX Secure projects

| Manage ETS Secure project file securely

- ETS project file
- Export Keyring
- Project password and keychain password
- Hand over data with documentation to the customer

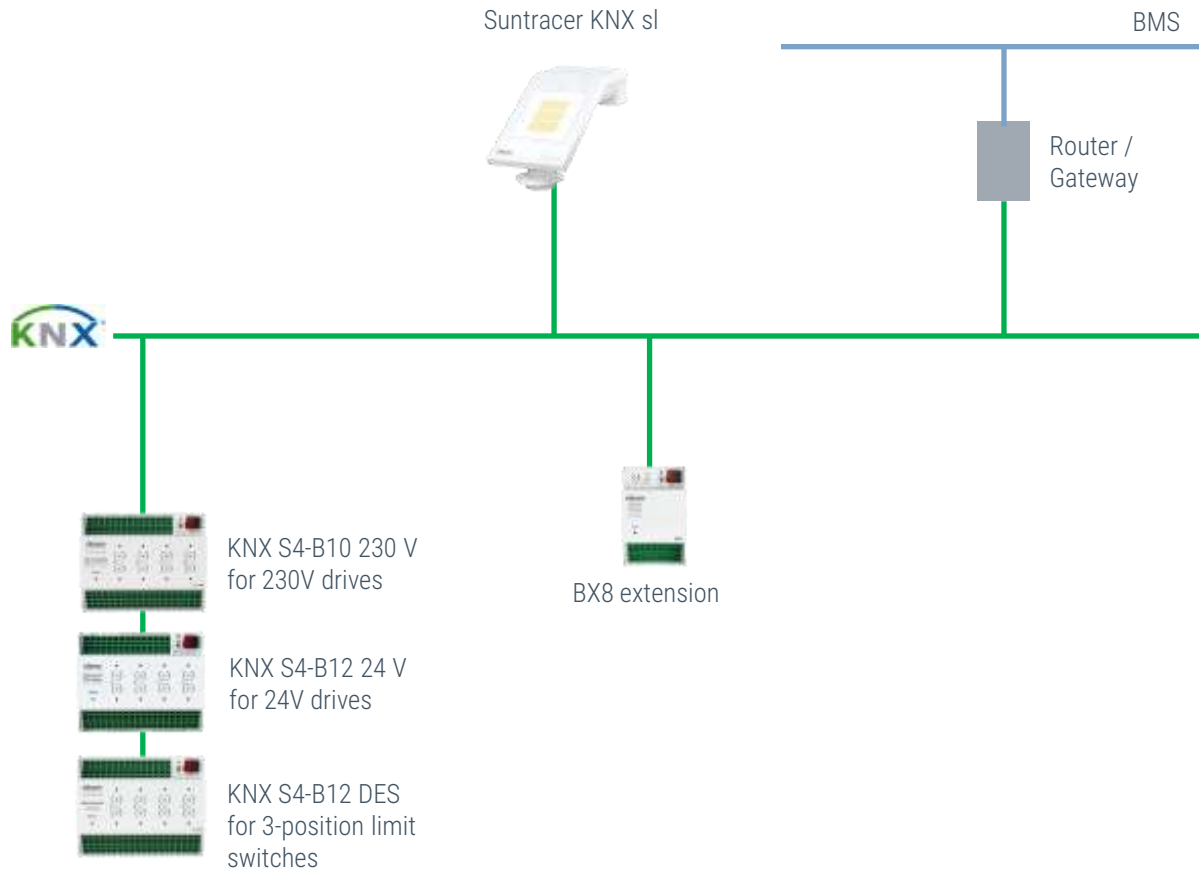


07 | APPLICATION EXAMPLES



Automatic shading with BX8

| BX8 with Suntracer KNX sl light



Parameterization

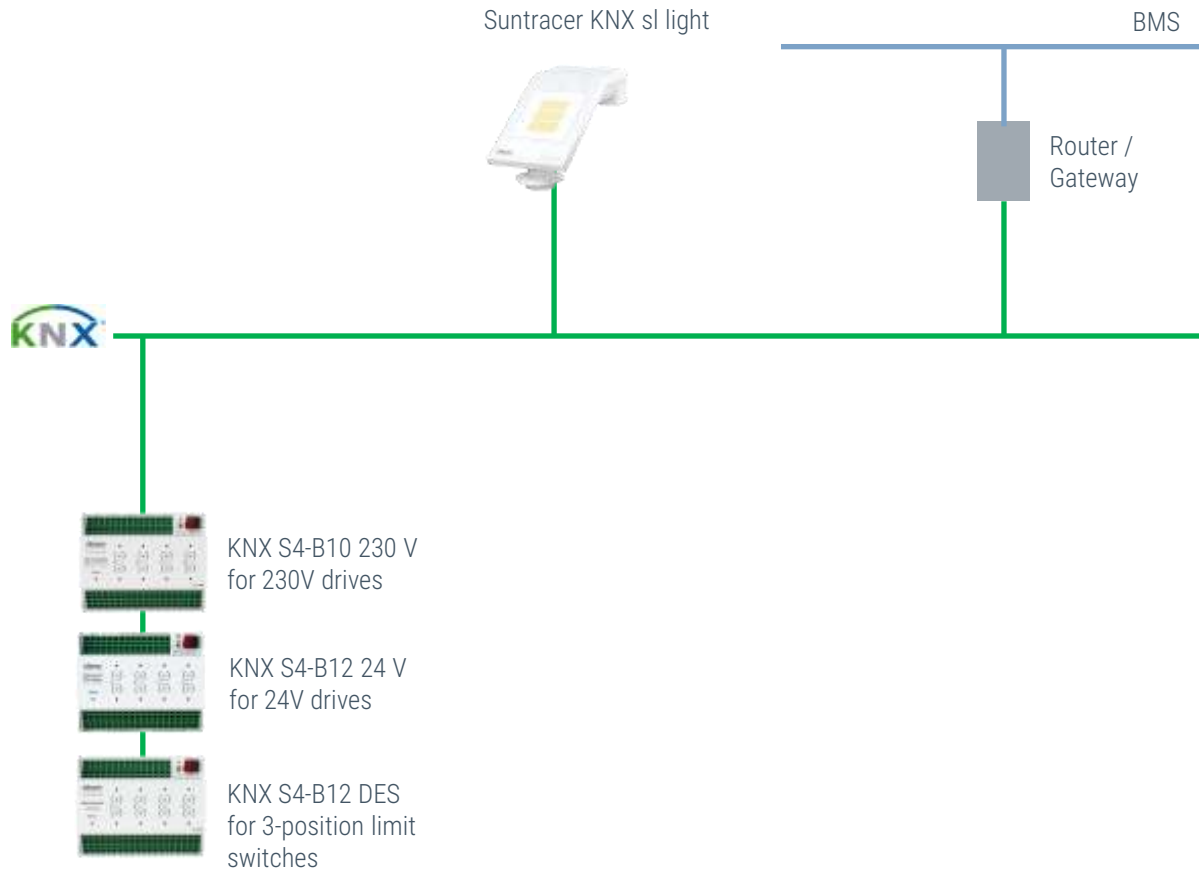
| Live ETS



We will now demonstrate
the parameterization live

Shading Automation in the Actuator

| S4-B10 with Suntracer KNX sl light



Parameterization

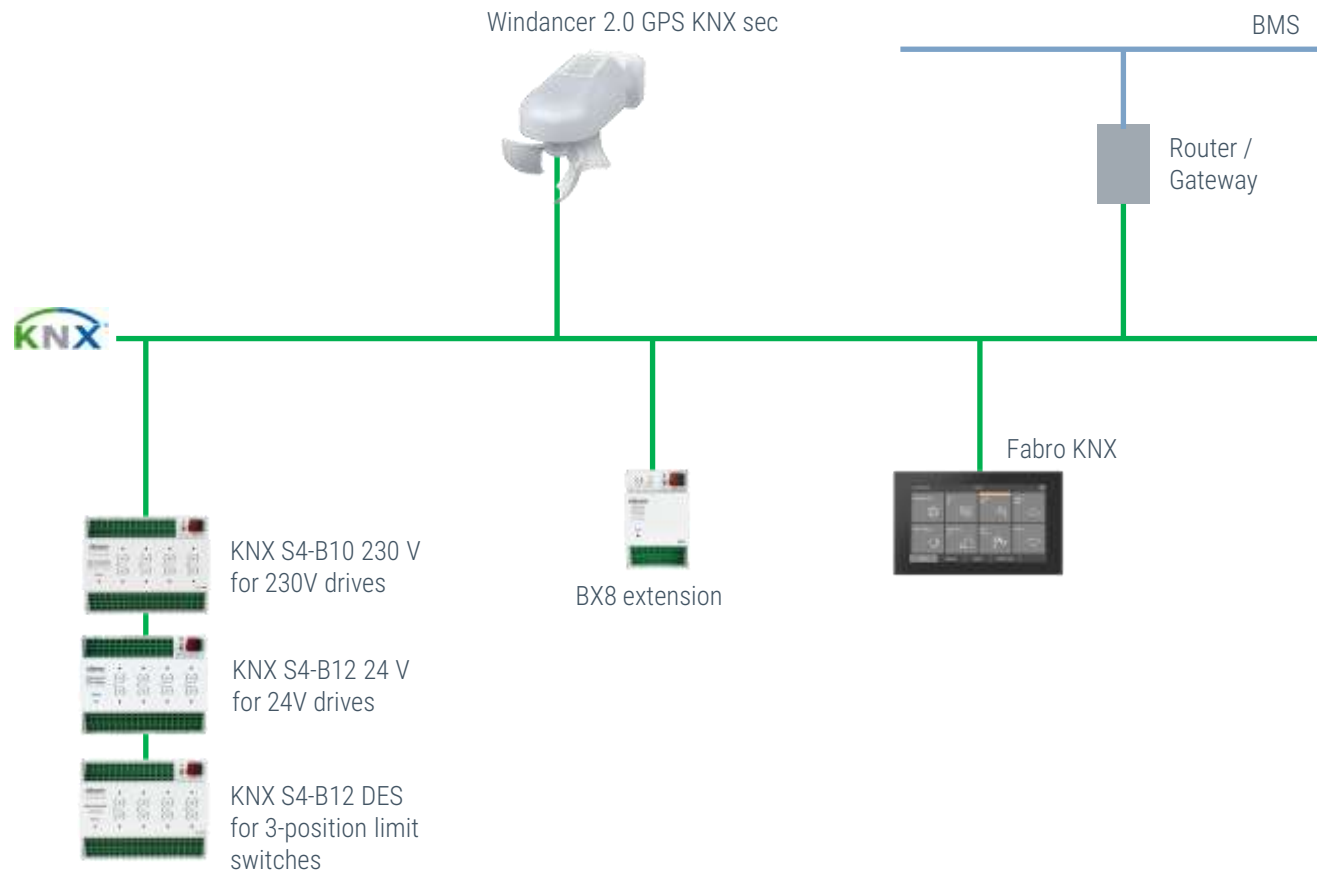
| Live ETS



We will now demonstrate
the parameterization live

Schematic Diagram

| Application example



- Windancer 2.0 GPS KNX sec
- For controlling the actuators
- Extension with BX8 KNX for up to 8 facades
- Operation also via Fabro KNX display
- Connection option for transmitting weather data and facade status to the building management system

Design of wind sensors for large-scale façades

| Multiple wind sensors KNX W on façade

- Use of individual sensors recommended for large façades
- The exact positioning of the wind sensors must be determined by the blind manufacturer, planner, or façade builder.
- Placement of wind sensors depends on numerous factors, including the type of shading and its construction
- In practice, it has been shown that for larger façades, a sensor should be placed approximately every three to five floors.

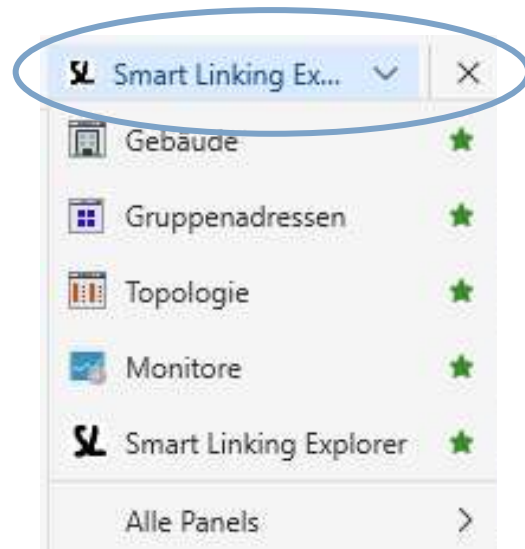


08 | Smart Linking

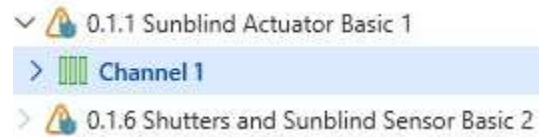


Smart Linking

| Step by Step Instructions



Step 01



Smart Linking

| Step by Step Instructions

Step 02

Smart Linking Ex... | Unlink All Channels | Clear View | View F

Sunblind Actuator Basic 1

Channel 1

- 31/0/0 MoveUpDown - MoveUpDown
- 31/0/1 StopStepUpDown - StopStepUpDown
- 31/0/2 DedicatedStop - DedicatedStop
- PresetPosition - PresetPosition
- 31/0/4 SetAbsPosBlindsPercentage - SetAbsPosBlindsPercentage
- 31/0/3 SetAbsPositionBlindsLength - SetAbsPositionBlindsLength
- 31/0/6 SetAbsPosSlatsPercentage - SetAbsPosSlatsPercentage
- 31/0/5 SetAbsPosSlatsDegrees - SetAbsPosSlatsDegrees

Gruppenadressen

- Suchordner
 - 14 Adressen mit Kommentar versehen
 - 0 Adressen nicht zugewiesen
- Gruppenadressen
 - 31 31
 - 31/0 Neue Mittelgruppe
 - 31/0/0 Move Up Down
 - 31/0/1 Stop Step Up Down
 - 31/0/2 Stop Trigger

Sic Adresse	Name	Beschreibung
31/0/0	Move Up Down	
31/0/1	Stop Step Up Down	
31/0/2	Stop Trigger	
31/0/3	Position Length	
31/0/4	Position Percentage	
31/0/5	Slat Position Degrees	
31/0/6	Slat Position Percentage	
31/0/7	Status Move Up Down	
31/0/8	Forced Move Up Down	priority control active or inactive and priority value.
31/0/9	Scene Control (Blinds)	

Smart Linking

Overview

The screenshot shows the ETS Professional interface with several windows open. The main window displays 'Keine Parameter verfügbar' (No parameters available). The left sidebar shows a tree view of devices, with 'Channel 1' selected and circled in blue. A blue arrow labeled 'Step 01' points from this selection to the 'Shutters and Sunblind Sensor Basic 2' window. In this window, the 'InfoMoveUp/Down' function is highlighted with a blue arrow labeled 'Step 02'. Below the main window, the 'Gruppenadressen' (Group Addresses) window is open, showing a table of addresses and their associated functions.

Gruppenadresse	Name	Beschreibung	Zentrale	Datentyp	Länge	Anzahl Letzter Wert
31/0/0	Move Up/Down		Nein	Auf/Ab	1 bit	1
31/0/1	Stop Step Up/Down		Nein	Schritt	1 bit	1
31/0/2	Stop Trigger		Nein	Auslöser	1 bit	1
31/0/3	Position Length		Nein	Länge (m...)	2 bytes	1
31/0/4	Position Percentage		Nein	Prozent [...]	1 byte	2
31/0/5	Slat Position Degrees		Nein	Rotations...	2 bytes	1
31/0/6	Slat Position Percentage		Nein	Prozent [...]	1 byte	2
31/0/7	Status Move Up/Down		Nein	Auf/Ab	1 bit	2
31/0/8	Forced Move Up/Down	priority control active or inactive and priority value	Nein	Richtung...	2 bit	1
31/0/9	Scene Control (Blinds)		Nein	Szenenst...	1 byte	1
31/0/10	Scene Number (Blinds)		Nein	Szenen N...	1 byte	1

Parameterization

| Live ETS



We will now show you
Smart Linking live

Further information

| Technical articles on our website



KNX Secure made simple – fundamentals, benefits and practical implementation

Find out how KNX Secure works and what really matters in day-to-day practice.

[More about the KNX Secure basics ►](#)



KNX Semantics and Smart Linking in ETS: Functions and Benefits

How semantic data and smart linking are transforming KNX project planning.

[More about semantics & smart linking ►](#)



Weather Station Protects Smart Buildings from Sun, Rain and more

For smart homes and compact commercial buildings

[More about Windancer ►](#)



Weather stations: Choosing the right housing design

We will show you the four designs of Elsner weather stations with their areas of application and technical differences.

[More about housing designs ►](#)

You can find more webinars
and recordings here



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