Windancer KNX(-GPS)

Weather Station with cup anemometer

Item numbers 71236 (Windancer KNX-GPS) and 71235 (Windancer KNX)

elsner elektronik

Installation and Adjustment

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. Safety and operating instructions

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

CAUTION!
Live voltage!
There are unprotected live components inside the device.

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

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

For information on installation, maintenance, disposal, scope of delivery and technical data, please refer to the installation instructions.

2. Description

The **Weather Station Windancer KNX(-GPS)** for the KNX building bus system measures temperature, wind speed, brightness and recognises precipitation.
All values can be used for the control of limit dependent switching outputs. States can be linked via AND logic gates and OR logic gates.

The Windancer KNX-GPS model additionally receives the GPS signal for time and location and calculates the exact position of the sun (azimuth and elevation).
The integrated shade control system allows intelligent control of the sun protection of up to eight façades.

Functions of both models:

- **Wind measurement** with cup anemometer
- **Precipitation detection**: The sensor surface is heated, so that only drops and flakes are recognised as precipitation, but not mist or dew. When the rain or snow stops, the sensor is soon dry again and the precipitation warning ends

- **Temperature measurement**
- **Switching outputs** for all measured values. Threshold values can be adjusted per parameter or via communication objects
- **6 AND and 6 OR logic gates**, each with 4 inputs. All switching events as well as 16 logic inputs (in the form of communications objects) can be used as inputs for the logic gates. The output of each gate can be configured optionally as 1-bit or 2 x 8-bit

Functionel adicional Windancer KNX:

- **Brightness measurement** (current illuminance). Measurement with 3 separate sensors (east, south, west). Separate threshold values for night

Functionel adicional Windancer KNX-GPS:

- **Brightness measurement** (current illuminance). Measurement with 3 separate sensors, output of the current highest value (one maximum value). Separate threshold values for night
- **GPS receiver**, outputting the current time and location coordinates. The **Weather Station Windancer KNX-GPS** also computes the position of the sun (azimuth and elevation)
- **Shade control** for up to 8 façades with slat tracking and shadow edge tracking
- **Weekly and calendar time switch**: The weather station receives the time and date from the integrated GPS receiver. The **weekly time switch** switches up to 4 different periods per day. With the **calendar time switch** up to 3 additional time periods can be defined, in which up to 2 On/Off switches take place. The switching outputs can be used as communications objects. The switch times are set via parameters

3. Initial start-up

Configuration is made using the KNX software ETS. The **product file** can be downloaded from the Elsner Elektronik website on **www.elsner-elektronik.de** in the "Service" menu.

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

3.1. Addressing the equipment

The physical address is assigned by the ETS. The device has a sensor and a control LED (fig. 1).

The equipment is delivered with the bus address 15.15.255. Another address can be programmed using the ETS.

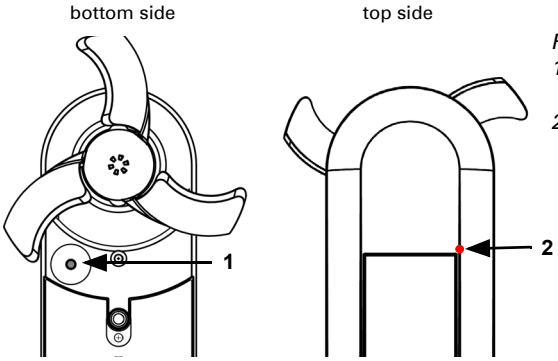


Fig. 1
1 Programming button for teaching the device
2 Programming LED (under the semi-transparent lid)

4. Transmission protocol

Units:

Temperatures in degrees Celsius
Brightness in lux
Wind in metres per second
Azimuth and elevation in degrees

4.1. List of all communications objects (Windancer KNX-GPS)

Abbreviations Flags:

C Communication
R Read
W Write
T Transfer
U Update

No	Text	Function	Flags	DPT type	Size
0	Output auxiliary voltage	Auxiliary voltage status (1=ON | 0=OFF)	R-CT-	[1.1] DPT_Switch	1 Bit
1	Input/Output GPS	GPS date	RWCTU	[11.1] DPT_Date	3 Bytes
2	Input/Output GPS	GPS time	RWCTU	[10.1] DPT_TimeOfDay	3 Bytes
3	Input GPS	Date and time request	-WC--	[1.17] DPT_Trigger	1 Bit
4	Output GPS	GPS malfunction	R-CT-	[1.1] DPT_Switch	1 Bit
5	Output location	Location longitude [°]	R-CT-	[14.7] DPT_Value_AngleDeg	4 Bytes
6	Output location	Location latitude [°]	R-CT-	[14.7] DPT_Value_AngleDeg	4 Bytes
7	Output Rain 1	Rain Switching output 1	R-CT-	[1.1] DPT_Switch	1 Bit
8	Output Rain 2	Rain Switching output 2	R-CT-	[1.1] DPT_Switch	1 Bit
9	Input Rain	Switch delay to rain	RWC--	[9.10] DPT_Value_Time1	2 Bytes
10	Input Rain	Switching delay to no rain	RWC--	[9.10] DPT_Value_Time1	2 Bytes
11	Output Night	Night Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
12	Input Night	Switching delay on night	RWC--	[9.10] DPT_Value_Time1	2 Bytes

No	Text	Function	Flags	DPT type	Size
13	Input Night	Switching delay to non-night	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
14	Output temperature measurement value	Temperature measured value	R-CT-	[9.1] DPT_-Value_Temp	2 Bytes
15	Input temperature measurement value	Temperature measurement value requirement min./max.	-WC--	[1.17] DPT_Trigger	1 Bit
16	Output temperature measurement value	Temperature measurement value minimum	R-CT-	[9.1] DPT_-Value_Temp	2 Bytes
17	Output temperature measurement value	Temperature measurement value maximum	R-CT-	[9.1] DPT_-Value_Temp	2 Bytes
18	Input temperature measurement value	Temperature measurement value reset min./max.	-WC--	[1.17] DPT_Trigger	1 Bit
19	Output temperature measurement value	Temperature Sensor Malfunction (0 = OK | 1 = NOT OK)	R-CT-	[1.1] DPT_Switch	1 Bit
20	Input / Output Temperature TV 1	Temperature TV 1 Absolute value	RWCTU	[9.1] DPT_-Value_Temp	2 Bytes
21	Input Temperature TV 1	Temperature TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
22	Input Temperature TV 1	Temperature TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
23	Input Temperature TV 1	Temperature TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
24	Output Temperature TV 1	Temperature TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
25	Input Temperature TV 1	Temperature TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
26	Input / Output Temperature TV 2	Temperature TV 2 Absolute value	RWCTU	[9.1] DPT_-Value_Temp	2 Bytes
27	Input Temperature TV 2	Temperature TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
28	Input Temperature TV 2	Temperature TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
29	Input Temperature TV 2	Temperature TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes

No	Text	Function	Flags	DPT type	Size
30	Output Temperature TV 2	Temperature TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
31	Input Temperature TV 2	Temperature TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
32	Input / Output Temperature TV 3	Temperature TV 3 Absolute value	RWCTU	[9.1] DPT_-Value_Temp	2 Bytes
33	Input Temperature TV 3	Temperature TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
34	Input Temperature TV 3	Temperature TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
35	Input Temperature TV 3	Temperature TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
36	Output Temperature TV 3	Temperature TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
37	Input Temperature TV 3	Temperature TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
38	Input / Output Temperature TV 4	Temperature TV 4 Absolute value	RWCTU	[9.1] DPT_-Value_Temp	2 Bytes
39	Input Temperature TV 4	Temperature TV 4 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
40	Input Temperature TV 4	Temperature TV 4 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
41	Input Temperature TV 4	Temperature TV 4 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
42	Output Temperature TV 4	Temperature TV 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
43	Input Temperature TV 4	Temperature TV 4 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
44	Output wind measurement	Wind measurement	R-CT-	[9.5] DPT_-Value_Wsp	2 Bytes
45	Input wind measurement value	Wind measurement value requirement max.	-WC--	[1.17] DPT_Trigger	1 Bit
46	Output wind measurement	Maximum wind measurement value	R-CT-	[9.5] DPT_-Value_Wsp	2 Bytes

No	Text	Function	Flags	DPT type	Size
47	Input wind measurement value	Wind measurement value reset max.	-WC--	[1.17] DPT_Trigger	1 Bit
49	Input / Output Wind TV 1	Wind TV 1 Absolute value	RWCTU	[9.5] DPT_Value_Wsp	2 Bytes
50	Input Wind TV 1	Wind TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
51	Input Wind TV 1	Wind TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
52	Input Wind TV 1	Wind TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
53	Output Wind TV 1	Wind TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
54	Input Wind TV 1	Wind TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
55	Input / Output Wind TV 2	Wind TV 2 Absolute value	RWCTU	[9.5] DPT_Value_Wsp	2 Bytes
56	Input Wind TV 2	Wind TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
57	Input Wind TV 2	Wind TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
58	Input Wind TV 2	Wind TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
59	Output Wind TV 2	Wind TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
60	Input Wind TV 2	Wind TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
61	Input / Output Wind TV 3	Wind TV 3 Absolute value	RWCTU	[9.5] DPT_Value_Wsp	2 Bytes
62	Input Wind TV 3	Wind TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
63	Input Wind TV 3	Wind TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
64	Input Wind TV 3	Wind TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
65	Output Wind TV 3	Wind TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
66	Input Wind TV 3	Wind TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
67	Output brightness measurement	Brightness measurement	R-CT-	[9.4] DPT_Value_Lux	2 Bytes
68	Input / Output Brightness TV 1	Brightness TV 1 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
69	Input Brightness TV 1	Brightness TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
70	Input Brightness TV 1	Brightness TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
71	Input Brightness TV 1	Brightness TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
72	Output Brightness TV 1	Brightness TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
73	Input Brightness TV 1	Brightness TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
74	Input / Output Brightness TV 2	Brightness TV 2 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
75	Input Brightness TV 2	Brightness TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
76	Input Brightness TV 2	Brightness TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
77	Input Brightness TV 2	Brightness TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
78	Output Brightness TV 2	Brightness TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
79	Input Brightness TV 2	Brightness TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
80	Input / Output Brightness TV 3	Brightness TV 3 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
81	Input Brightness TV 3	Brightness TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
82	Input Brightness TV 3	Brightness TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
83	Input Brightness TV 3	Brightness TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
84	Output Brightness TV 3	Brightness TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
85	Input Brightness TV 3	Brightness TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
86	Input / Output Brightness TV 4	Brightness TV 4 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
87	Input Brightness TV 4	Brightness TV 4 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
88	Input Brightness TV 4	Brightness TV 4 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
89	Input Brightness TV 4	Brightness TV 4 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
90	Output Brightness TV 4	Brightness TV 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
91	Input Brightness TV 4	Brightness TV 4 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
92	Input / Output Twilight TV 1	Twilight TV 1 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
93	Input Twilight TV 1	Twilight TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
94	Input Twilight TV 1	Twilight TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
95	Input Twilight TV 1	Twilight TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
96	Output Twilight TV 1	Twilight TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
97	Input Twilight TV 1	Twilight TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
98	Input / Output Twilight TV 2	Twilight TV 2 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
99	Input Twilight TV 2	Twilight TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
100	Input Twilight TV 2	Twilight TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
101	Input Twilight TV 2	Twilight TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
102	Output Twilight TV 2	Twilight TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
103	Input Twilight TV 2	Twilight TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
104	Input / Output Twilight TV 3	Twilight TV 3 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
105	Input Twilight TV 3	Twilight TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
106	Input Twilight TV 3	Twilight TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
107	Input Twilight TV 3	Twilight TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
108	Output Twilight TV 3	Twilight TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
109	Input Twilight TV 3	Twilight TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
110	Output sun position	Sun position azimuth [°]	R-CT-	[14.7] DPT_-Value_AngleDeg	4 Bytes
111	Output sun position	Sun position elevation [°]	R-CT-	[14.7] DPT_-Value_AngleDeg	4 Bytes
112	Output sun position	Sun position azimuth [°]	R-CT-	[9.7] DPT_-Value_Humidity	2 Bytes
113	Output sun position	Sun position elevation [°]	R-CT-	[9.7] DPT_-Value_Humidity	2 Bytes
114	Output Façades	Façades Thermal insulation status	R-CT-	[1.1] DPT_Switch	1 Bit
115	Output Façade 1	Façade 1 Status	R-CT-	[1.1] DPT_Switch	1 Bit
116	Output Façade 1	Façade 1 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
117	Output Façade 1	Façade 1 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
118	Input Façade 1	Façade 1 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
119	Input Façade 1	Façade 1 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
120	Output Façade 2	Façade 2 Status	R-CT-	[1.1] DPT_Switch	1 Bit
121	Output Façade 2	Façade 2 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
122	Output Façade 2	Façade 2 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
123	Input Façade 2	Façade 2 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
124	Input Façade 2	Façade 2 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
125	Output Façade 3	Façade 3 Status	R-CT-	[1.1] DPT_Switch	1 Bit
126	Output Façade 3	Façade 3 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
127	Output Façade 3	Façade 3 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
128	Input Façade 3	Façade 3 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
129	Input Façade 3	Façade 3 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
130	Output Façade 4	Façade 4 Status	R-CT-	[1.1] DPT_Switch	1 Bit
131	Output Façade 4	Façade 4 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
132	Output Façade 4	Façade 4 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
133	Input Façade 4	Façade 4 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
134	Input Façade 4	Façade 4 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
135	Output Façade 5	Façade 5 Status	R-CT-	[1.1] DPT_Switch	1 Bit
136	Output Façade 5	Façade 5 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
137	Output Façade 5	Façade 5 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
138	Input Façade 5	Façade 5 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
139	Input Façade 5	Façade 5 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
140	Output Façade 6	Façade 6 Status	R-CT-	[1.1] DPT_Switch	1 Bit
141	Output Façade 6	Façade 6 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
142	Output Façade 6	Façade 6 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
143	Input Façade 6	Façade 6 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
144	Input Façade 6	Façade 6 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
145	Output Façade 7	Façade 7 Status	R-CT-	[1.1] DPT_Switch	1 Bit
146	Output Façade 7	Façade 7 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
147	Output Façade 7	Façade 7 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte

No	Text	Function	Flags	DPT type	Size
148	Input Façade 7	Façade 7 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
149	Input Façade 7	Façade 7 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
150	Output Façade 8	Façade 8 Status	R-CT-	[1.1] DPT_Switch	1 Bit
151	Output Façade 8	Façade 8 Movement position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
152	Output Façade 8	Façade 8 Slat position [%]	R-CT-	[5.1] DPT_Scaling	1 Byte
153	Input Façade 8	Façade 8 Block (1 = blocked)	-WC--	[1.1] DPT_Switch	1 Bit
154	Input Façade 8	Façade 8 Safety (1 = active)	-WC--	[1.1] DPT_Switch	1 Bit
155	“Output Calendar time switch Period 1, Seq. 1”	“Calendar time switch Period 1, Seq. 1 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
156	“Output Calendar time switch Period 1, Seq. 2”	“Calendar time switch Period 1, Seq. 2 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
157	“Output Calendar time switch Period 2, Seq. 1”	“Calendar time switch Period 2, Seq. 1 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
158	“Output Calendar time switch Period 2, Seq. 2”	“Calendar time switch Period 2, Seq. 2 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
159	“Output Calendar time switch Period 3, Seq. 1”	“Calendar time switch Period 3, Seq. 1 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
160	“Output Calendar time switch Period 3, Seq. 2”	“Calendar time switch Period 3, Seq. 2 Switching output”	R-CT-	[1.1] DPT_Switch	1 Bit
161	Output Weekly time switch Monday 1	Weekly time switch Monday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
162	Output Weekly time switch Monday 2	Weekly time switch Monday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
163	Output Weekly time switch Monday 3	Weekly time switch Monday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
164	Output Weekly time switch Monday 4	Weekly time switch Monday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
165	Output Weekly time switch Tuesday 1	Weekly time switch Tuesday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
166	Output Weekly time switch Tuesday 2	Weekly time switch Tuesday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
167	Output Weekly time switch Tuesday 3	Weekly time switch Tuesday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
168	Output Weekly time switch Tuesday 4	Weekly time switch Tuesday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
169	Output Weekly time switch Wednesday 1	Weekly time switch Wednesday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
170	Output Weekly time switch Wednesday 2	Weekly time switch Wednesday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
171	Output Weekly time switch Wednesday 3	Weekly time switch Wednesday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
172	Output Weekly time switch Wednesday 4	Weekly time switch Wednesday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
173	Output Weekly time switch Thursday 1	Weekly time switch Thursday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
174	Output Weekly time switch Thursday 2	Weekly time switch Thursday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
175	Output Weekly time switch Thursday 3	Weekly time switch Thursday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
176	Output Weekly time switch Thursday 4	Weekly time switch Thursday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
177	Output Weekly time switch Friday 1	Weekly time switch Friday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
178	Output Weekly time switch Friday 2	Weekly time switch Friday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
179	Output Weekly time switch Friday 3	Weekly time switch Friday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
180	Output Weekly time switch Friday 4	Weekly time switch Friday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
181	Output Weekly time switch Saturday 1	Weekly time switch Saturday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
182	Output Weekly time switch Saturday 2	Weekly time switch Saturday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
183	Output Weekly time switch Saturday 3	Weekly time switch Saturday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
184	Output Weekly time switch Saturday 4	Weekly time switch Saturday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
185	Output Weekly time switch Sunday 1	Weekly time switch Sunday 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
186	Output Weekly time switch Sunday 2	Weekly time switch Sunday 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
187	Output Weekly time switch Sunday 3	Weekly time switch Sunday 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
188	Output Weekly time switch Sunday 4	Weekly time switch Sunday 4 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
189	Input logic input 1	Logic input 1	-WC--	[1.1] DPT_Switch	1 Bit
190	Input logic input 2	Logic input 2	-WC--	[1.1] DPT_Switch	1 Bit
191	Input logic input 3	Logic input 3	-WC--	[1.1] DPT_Switch	1 Bit
192	Input logic input 4	Logic input 4	-WC--	[1.1] DPT_Switch	1 Bit
193	Input logic input 5	Logic input 5	-WC--	[1.1] DPT_Switch	1 Bit
194	Input logic input 6	Logic input 6	-WC--	[1.1] DPT_Switch	1 Bit
195	Input logic input 7	Logic input 7	-WC--	[1.1] DPT_Switch	1 Bit
196	Input logic input 8	Logic input 8	-WC--	[1.1] DPT_Switch	1 Bit
197	Input logic input 9	Logic input 9	-WC--	[1.1] DPT_Switch	1 Bit
198	Input logic input 10	Logic input 10	-WC--	[1.1] DPT_Switch	1 Bit
199	Input logic input 11	Logic input 11	-WC--	[1.1] DPT_Switch	1 Bit
200	Input logic input 12	Logic input 12	-WC--	[1.1] DPT_Switch	1 Bit
201	Input logic input 13	Logic input 13	-WC--	[1.1] DPT_Switch	1 Bit
202	Input logic input 14	Logic input 14	-WC--	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
203	Input logic input 15	Logic input 15	-WC--	[1.1] DPT_Switch	1 Bit
204	Input logic input 16	Logic input 16	-WC--	[1.1] DPT_Switch	1 Bit
205	Output AND logic 1	AND logic 1 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
206	Output AND logic 1	AND logic 1 8 bit output A	R-CT-	depending on setting	1 Byte
207	Output AND logic 1	AND logic 1 8 bit output B	R-CT-	depending on setting	1 Byte
208	Input AND logic 1	AND logic 1 Output block	-WC--	[1.1] DPT_Switch	1 Bit
209	Output AND logic 2	AND logic 2 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
210	Output AND logic 2	AND logic 2 8 bit output A	R-CT-	depending on setting	1 Byte
211	Output AND logic 2	AND logic 2 8 bit output B	R-CT-	depending on setting	1 Byte
212	Input AND Logic 2	AND Logic 2 Output block	-WC--	[1.1] DPT_Switch	1 Bit
213	Output AND logic 3	AND logic 3 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
214	Output AND logic 3	AND logic 3 8 bit output A	R-CT-	depending on setting	1 Byte
215	Output AND logic 3	AND logic 3 8 bit output B	R-CT-	depending on setting	1 Byte
216	Input AND Logic 3	AND Logic 3 Output block	-WC--	[1.1] DPT_Switch	1 Bit
217	Output AND logic 4	AND logic 4 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
218	Output AND logic 4	AND logic 4 8 bit output A	R-CT-	depending on setting	1 Byte
219	Output AND logic 4	AND logic 4 8 bit output B	R-CT-	depending on setting	1 Byte
220	Input AND Logic 4	AND Logic 4 Output block	-WC--	[1.1] DPT_Switch	1 Bit
221	Output AND logic 5	AND logic 5 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
222	Output AND logic 5	AND logic 5 8 bit output A	R-CT-	depending on setting	1 Byte
223	Output AND logic 5	AND logic 5 8 bit output B	R-CT-	depending on setting	1 Byte
224	Input AND Logic 5	AND Logic 5 Output block	-WC--	[1.1] DPT_Switch	1 Bit
225	Output AND logic 6	AND logic 6 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
226	Output AND logic 6	AND logic 6 8 bit output A	R-CT-	depending on setting	1 Byte
227	Output AND logic 6	AND logic 6 8 bit output B	R-CT-	depending on setting	1 Byte
228	Input AND Logic 6	AND Logic 6 Output block	-WC--	[1.1] DPT_Switch	1 Bit
229	Output OR logic 1	OR logic 1 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
230	Output OR logic 1	OR logic 1 8 bit output A	R-CT-	depending on setting	1 Byte
231	Output OR logic 1	OR logic 1 8 bit output B	R-CT-	depending on setting	1 Byte
232	Input OR logic 1	OR logic 1 Output block	-WC--	[1.1] DPT_Switch	1 Bit
233	Output OR logic 2	OR logic 2 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
234	Output OR logic 2	OR logic 2 8 bit output A	R-CT-	depending on setting	1 Byte
235	Output OR logic 2	OR logic 2 8 bit output B	R-CT-	depending on setting	1 Byte
236	Input OR Logic 2	OR Logic 2 Output block	-WC--	[1.1] DPT_Switch	1 Bit
237	Output OR logic 3	OR logic 3 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
238	Output OR logic 3	OR logic 3 8 bit output A	R-CT-	depending on setting	1 Byte
239	Output OR logic 3	OR logic 3 8 bit output B	R-CT-	depending on setting	1 Byte
240	Input OR Logic 3	OR Logic 3 Output block	-WC--	[1.1] DPT_Switch	1 Bit
241	Output OR logic 4	OR logic 4 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
242	Output OR logic 4	OR logic 4 8 bit output A	R-CT-	depending on setting	1 Byte
243	Output OR logic 4	OR logic 4 8 bit output B	R-CT-	depending on setting	1 Byte
244	Input OR Logic 4	OR Logic 4 Output block	-WC--	[1.1] DPT_Switch	1 Bit
245	Output OR logic 5	OR logic 5 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
246	Output OR logic 5	OR logic 5 8 bit output A	R-CT-	depending on setting	1 Byte
247	Output OR logic 5	OR logic 5 8 bit output B	R-CT-	depending on setting	1 Byte

No	Text	Function	Flags	DPT type	Size
248	Input OR Logic 5	OR Logic 5 Output block	-WC--	[1.1] DPT_Switch	1 Bit
249	Output OR logic 6	OR logic 6 1 bit switching output	R-CT-	[1.1] DPT_Switch	1 Bit
250	Output OR logic 6	OR logic 6 8 bit output A	R-CT-	depending on setting	1 Byte
251	Output OR logic 6	OR logic 6 8 bit output B	R-CT-	depending on setting	1 Byte
252	Input OR Logic 6	OR Logic 6 Output block	-WC--	[1.1] DPT_Switch	1 Bit
253	Output software version	Software version	R-CT-	[217.1] DPT_Version	2 Bytes

4.2. List of all communications objects (Windancer KNX)

Abbreviations Flags:

C Communication
R Read
W Write
T Transfer
U Update

For communication objects 0, 7-66 and 189-253 See “List of all communications objects (Windancer KNX-GPS)” on page 8.

No	Text	Function	Flags	DPT type	Size
67	Output brightness measurement	Brightness measurement East	R-CT-	[9.4] DPT_Value_Lux	2 Bytes
68	Output brightness measurement	Brightness measurement South	R-CT-	[9.4] DPT_Value_Lux	2 Bytes
69	Output brightness measurement	Brightness measurement West	R-CT-	[9.4] DPT_Value_Lux	2 Bytes
75	Input / Output Brightness East TV 1	Brightness East TV 1 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
76	Input Brightness East TV 1	Brightness East TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
77	Input Brightness East TV 1	Brightness East TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
78	Input Brightness East TV 1	Brightness East TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
79	Output Brightness East TV 1	Brightness East TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
80	Input Brightness East TV 1	Brightness East TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
81	Input / Output Brightness East TV 2	Brightness East TV 2 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
82	Input Brightness East TV 2	Brightness East TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
83	Input Brightness East TV 2	Brightness East TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
84	Input Brightness East TV 2	Brightness East TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
85	Output Brightness East TV 2	Brightness East TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
86	Input Brightness East TV 2	Brightness East TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
87	Input / Output Brightness East TV 3	Brightness East TV 3 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
88	Input Brightness East TV 3	Brightness East TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
89	Input Brightness East TV 3	Brightness East TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
90	Input Brightness East TV 3	Brightness East TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
91	Output Brightness East TV 3	Brightness East TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
92	Input Brightness East TV 3	Brightness East TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
93	Input / Output Brightness South TV 1	Brightness South TV 1 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
94	Input Brightness South TV 1	Brightness South TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
95	Input Brightness South TV 1	Brightness South TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
96	Input Brightness South TV 1	Brightness South TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes

No	Text	Function	Flags	DPT type	Size
97	Output Brightness South TV 1	Brightness South TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
98	Input Brightness South TV 1	Brightness South TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
99	Input / Output Brightness South TV 2	Brightness South TV 2 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
100	Input Brightness South TV 2	Brightness South TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
101	Input Brightness South TV 2	Brightness South TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
102	Input Brightness South TV 2	Brightness South TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
103	Output Brightness South TV 2	Brightness South TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
104	Input Brightness South TV 2	Brightness South TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
105	Input / Output Brightness South TV 3	Brightness South TV 3 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
106	Input Brightness South TV 3	Brightness South TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
107	Input Brightness South TV 3	Brightness South TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
108	Input Brightness South TV 3	Brightness South TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
109	Output Brightness South TV 3	Brightness South TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
110	Input Brightness South TV 3	Brightness South TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
111	Input / Output Brightness West TV 1	Brightness West TV 1 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes

No	Text	Function	Flags	DPT type	Size
112	Input Brightness West TV 1	Brightness West TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
113	Input Brightness West TV 1	Brightness West TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
114	Input Brightness West TV 1	Brightness West TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
115	Output Brightness West TV 1	Brightness West TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
116	Input Brightness West TV 1	Brightness West TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
117	Input / Output Brightness West TV 2	Brightness West TV 2 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
118	Input Brightness West TV 2	Brightness West TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
119	Input Brightness West TV 2	Brightness West TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
120	Input Brightness West TV 2	Brightness West TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
121	Output Brightness West TV 2	Brightness West TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
122	Input Brightness West TV 2	Brightness West TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
123	Input / Output Brightness West TV 3	Brightness West TV 3 Absolute value	RWCTU	[9.4] DPT_-Value_Lux	2 Bytes
124	Input Brightness West TV 3	Brightness West TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
125	Input Brightness West TV 3	Brightness West TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_-Value_Time1	2 Bytes
126	Input Brightness West TV 3	Brightness West TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_-Value_Time1	2 Bytes

No	Text	Function	Flags	DPT type	Size
127	Output Brightness West TV 3	Brightness West TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
128	Input Brightness West TV 3	Brightness West TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
129	Input / Output Twilight TV 1	Twilight TV 1 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
130	Input Twilight TV 1	Twilight TV 1 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
131	Input Twilight TV 1	Twilight TV 1 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
132	Input Twilight TV 1	Twilight TV 1 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
133	Output Twilight TV 1	Twilight TV 1 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
134	Input Twilight TV 1	Twilight TV 1 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
135	Input / Output Twilight TV 2	Twilight TV 2 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
136	Input Twilight TV 2	Twilight TV 2 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
137	Input Twilight TV 2	Twilight TV 2 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes
138	Input Twilight TV 2	Twilight TV 2 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
139	Output Twilight TV 2	Twilight TV 2 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
140	Input Twilight TV 2	Twilight TV 2 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit
141	Input / Output Twilight TV 3	Twilight TV 3 Absolute value	RWCTU	[9.4] DPT_Value_Lux	2 Bytes
142	Input Twilight TV 3	Twilight TV 3 Change (1:+ | 0: -)	RWC--	[1.1] DPT_Switch	1 Bit
143	Input Twilight TV 3	Twilight TV 3 Switching delay from 0 to 1	RWC--	[9.10] DPT_Value_Time1	2 Bytes

No	Text	Function	Flags	DPT type	Size
144	Input Twilight TV 3	Twilight TV 3 Switching delay from 1 to 0	RWC--	[9.10] DPT_Value_Time1	2 Bytes
145	Output Twilight TV 3	Twilight TV 3 Switching output	R-CT-	[1.1] DPT_Switch	1 Bit
146	Input Twilight TV 3	Twilight TV 3 Switch output block	RWC--	[1.1] DPT_Switch	1 Bit

5. Setting of the parameters

In general, by sending periodically, the value/status can be sent on the bus even if there is no change.

5.1. Behaviour on power failure/ restoration of power

Behaviour following a failure of the bus power supply:

The device sends nothing.

Behaviour following a failure of the auxiliary power supply:

The "Auxiliary voltage status" object sends according to the parameter setting.

Behaviour on bus restoration of power and following programming or reset:

The device sends all measurement values as well as switching and status according to their send behaviour set in the parameters with the delays fixed in the "General settings" parameter block.

Behaviour following resumption of the auxiliary power supply:

The "Auxiliary voltage status" object sends according to the parameter setting.

5.2. General settings

First set the send delays after power up and programming here.
These delays should be coordinated with the entire KNX-system, i.e. in a KNX system with many participants, care should be taken that the bus is not overloaded after a KNX-bus reset. The messages of the individual participants should be sent offset.

Transmission delays after power-up and programming for:	
Readings	5 s ... 2 h
Threshold values and switching outputs	5 s ... 2 h
Logic outputs	5 s ... 2 h

The bus load is limited with the aid of the maximum message rate. Many messages per second put a strain on the bus, but ensure faster data transmission.

Maximum telegram rate	1 • 2 • 3 • 5 • 10 • 20 messages per sec.

The auxiliary voltage status object indicates whether the auxiliary voltage is connected to the weather station. If the rain sensor is used, then the auxiliary voltage must be connected.

Send object auxiliary voltage status	• not send • on change • on change and periodically

When sending periodically, the object auxiliary voltage status is sent on the bus in a fixed cycle that can be set here.

Send cycle *(only if date and time are transmitted "periodically")*	5 s ... 2 h; 10 s

5.3. GPS settings (Windancer KNX-GPS)

The Windancer KNX-GPS weather station has a GPS receiver that provides the date and time, among other things. Since there should only be one message for date/time in a KNX-system (e.g. when using several GPS weather stations), the procedure for dealing with the time signal of the weather station is set here.

If the date and time are set by the GPS signal and not sent, then they are only used internally, e.g. to calculate the position of the sun.

By sending to the bus (periodically or on request), the date and time of the weather station can also be used by other bus participants.

Alternatively, the date and time can be set by communication objects (i.e. from the bus). This setting is useful if another bus participant is to specify the time signal uniformly.

Date and time will be set by	• GPS signal and not sent • GPS signal and sent periodically • GPS signal and sent on request • GPS signal and sent on request + periodically sent • Communication objects and not sent

When sending periodically, the date and time are sent on the bus in a fixed cycle that can be set here.

Send cycle *(only if date and time are transmitted "periodically")*	5 s ... 2 h; 1 min

After the bus voltage is applied or restored, it can take up to 10 minutes until the GPS signal is received, sometimes even longer at locations with poor GPS reception. Therefore, a longer duration should be chosen in such cases.

If there is no reception, GPS fault is ... recognised after the last reception	20 min • 30 min • 1 h • 1.5 h • 2 h
After the return of auxiliary voltage it can take up to ten minutes till GPS OK	

The information of the GPS fault can be used by other bus participants for monitoring. The transmission behaviour can be set here to match this.

GPS fault object sends (1 = Fault | 0 = No fault)	• not send • 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

When sending periodically, the GPS fault is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is transmitted if "periodically" is selected)*	5 s ... 2 h

If date and time are set by GPS signal:

The current date and time can be set initially via the ETS. The weather station uses this data until the first time a valid GPS signal is received.

If date and time are set by communications object:

Between the transmission of the date and the transmission of the time, no date change may take place; they must be sent to the weather station on the same day.

The date and time must be received within 10 s of each other for the device's internal clock to accept this data as valid.

The weather station has an integrated real-time clock. Therefore, time keeps on running internally and can be sent to the bus, even when no GPS coverage is available or no time communication object has been received for some time. The internal clock of the weather station can show a time drift of up to ±6 seconds per day.

5.4. Location (Windancer KNX-GPS)

The Windancer KNX-GPS weather station has a GPS receiver that provides the geo-position, among other things. The location is required in order to be able to calculate the **position of the sun** with the help of the date and time. During the initial start-up, the input coordinates are used for as long as no GPS reception exists.

In order to be able to display the **correct time,** the location must also be known. Only in this way can the weather station automatically take into account the UTC offset (difference from world time) and the summer/winter time change-over.

The coordinates of various towns are saved in the weather station:

Country	• Another country • Belgium • Germany • France • Greece • Ireland • Italy • Luxembourg • Netherlands	• Norway • Austria • Portugal • Sweden • Switzerland • Spain • Turkey • UK
Location	6 towns in Belgium 41 towns in Germany; Stuttgart 30 towns in France 9 towns in Greece 20 towns in Italy 1 town in Luxembourg 8 towns in the Netherlands 11 towns in Norway 13 towns in Austria 5 towns in Portugal 15 towns in Sweden 12 towns in Switzerland 23 towns in Spain 13 towns in Turkey 21 towns in the UK	

As soon as "another country" or "another location" is selected, the input fields for the exact coordinates appear. For example, enter (40° 43′ northern latitude, 74° 0′ western longitude) for New York, USA:

E. longitude [degrees, -180…+180]	0 [negative values mean "western longitude"]
E. longitude [minutes, -59…+59]	0 [negative values mean "western longitude"]
Northern latitude [Degrees, -90…+90]	0 [negative values mean "southern latitude"]
Northern latitude [minutes, -59…+59]	0 [negative values mean "southern latitude"]
Rule for summer/winter time switching and UTC offset	0 [can be specified manually here]

The summer/winter time change-over takes place automatically when "Time zone definition standard" is selected. If "Time zone definition specific" is selected, the rule for the change-over can be adjusted manually.

Time zone definition	Standard • specific
Summer/winter time change-over on the	ST: Sun. after 25 March WT: Sun. after 25 Oct.
Rule for summer/winter time change-over	0 [can be specified manually here] [Change only possible with "Specific time zone definition"]

The location coordinates can be sent on the KNX-bus if required. Sending on change or periodically is more useful for movable structures, such as mobile homes or ships.

Location coordinates	• Do not send • send periodically • send if there is a change • send on change and periodically

When sending on change, the location coordinates are sent on the bus as soon as they change by the percentage set here.

On change of *(is only transmitted if "on change" is selected)*	0.5° • 1° • 2° • 5° • 10°

When sending periodically, the position coordinates are sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 1 min

5.5. Rain

If the rain sensor is used, then the auxiliary voltage must be connected. The auxiliary voltage feeds the heating of the rain sensor. Only when the rain sensor is heated, the end of precipitation is detected promptly and false alarms caused by fog or dew are avoided.

Use rain sensor	No • **Yes**

The object value is defined for rain.

When it rains the switching output is	1 • 0

The delay times in seconds can be defined via objects.

Delays can be set via objects (in seconds)	No • Yes

With longer switching delays, a short rain shower or a short dry phase are not reported.

Switch delay to rain	none • 5 s ... • 2 h
Switch delay to no rain after it is dry again	5 min • 10 min ... • 2 h

Here you set when the switching output is to be sent to the bus.

Switching output sends	• If there is a 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

When sending periodically, the rain switching output is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

The additional rain output is used when 2 rain outputs with different delays are needed.
If, for example, windows and awnings are to be controlled on a façade, they can react differently to rain. For windows, the longer rain delay time would ensure that the motors do not run constantly in changeable weather. The awnings on the same façade would react quickly with the help of the 2nd rain output.

Use rain output 2 with fixed switching delays (this switching output has no delay on rain recognition and 5 minutes delay after it is dry again)	No • Yes

5.6. Night

Night detection can be activated here if required.

Use night recognition Night will be recognised below 10 Lux.	No • Yes

Here you can set whether a 1 or 0 is sent to the bus at night.

At night the switching output is	1 • 0

The delay times in seconds can be defined via objects.

Delays can be set via objects (in seconds)	No • Yes

Switching delays can be used to compensate for minor brightness fluctuations, e.g. darkening due to clouds at twilight.

Switching delay on night	none • 5 s ... 2 h
Switching delay to non-night	none • 5 s ... 2 h

Here you set when the switching output is to be sent to the bus.

Switching output sends	• If there is a 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

When sending periodically, the night switching output is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

5.7. Temperature

The output temperature value can be corrected here by an offset value if required. In this way, deviations caused by sources of interference can be compensated for, e.g. dark surfaces that heat up.

Offset in 0.1°C	-50... 50; 0

The temperature value can be sent to the bus and further processed there by other participants.

Measurement	• Do not send • send periodically • send if there is a change • send on change and periodically

When sending on change, the temperature value is sent on the bus as soon as it changes by the percentage set here.

On change of *(is only transmitted if "on change" is selected)*	2% • 5% • 10% • 25% • 50%

When sending periodically, the temperature value is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

The highest (max.) and the lowest (min.) temperature value since programming or a reset can be sent to the bus. The two values can be reset via object no. 18 “Temperature measured value reset min./max.”

Use min. and max. values (Values are not retained after reset)	No • Yes

The “Temperature sensor fault” object is used to monitor the function of the temperature sensor. A 1 is sent in case of a fault, otherwise a 0.

Use object "Temperature sensor malfunction"	No • Yes

5.7.1. Temperature threshold value 1 / 2 / 3 / 4

The temperature threshold values are used to carry out certain actions when a temperature value is exceeded or not reached.

Use threshold value 1 / 2 / 3 / 4	No • Yes

Threshold value:

Here it is selected whether the threshold value is to be specified per parameter or via a communication object.

Threshold value setpoint using	Parameter • Communication objects

When the **threshold value per parameter** is specified, then the value is set.

Threshold value in 0.1°C increments	-300 ... 800; 200

Here it is set in which cases **threshold values received by a communication object** should be retained. Please note that the setting "After power restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first Communication, the factory settings must always be used.

The last communicated value should	• not send • after restoration of power • after power restoration and programming

If the **threshold value is set by a communication object**, during the initial commissioning a threshold value must be specified which is valid until the 1st communication of a new threshold value. With weather stations that have already been taken into service, the last threshold value communicated is used.
From the 1st communication, the threshold value corresponds to the value of the communication object and is not multiplied by the factor 0.1.

Once a threshold value is set via parameter or communication object, the last set threshold value remains until a new threshold value is transmitted by a communication object.
The last threshold values set by communications objects are saved in the device, so that they are retained during a power outage and are available once again when power is restored.

Start threshold value in 0.1°C valid until first communication	-300 ... 800; 200

The type of threshold value change is set here.

Type of threshold value change	Absolute value • Increase/decrease

The step size is selected here.

Step size (only for threshold value change through "Increase / Decrease")	0.1°C • 0.2°C • 0.3°C • 0.4°C • 0.5°C • 1°C • 2°C • 3°C • 4°C • 5°C

With both types of limit setting, the hysteresis is set, which is important for the next parameter.
The hysteresis prevents the switching output of the threshold value from changing too often in the event of temperature fluctuations. When the temperature drops, the switching output does not react until the hysteresis falls below the threshold value (points 1 and 2 in the next parameter). When the temperature rises, the switching output only reacts when the hysteresis falls below the threshold value (points 3 and 4 in the next parameter).

Hysteresis of the threshold value in %	0 ... 50; 20

Switching output:

Here it is set which value the output transmits if the threshold value is exceeded or undercut.

When the following conditions apply, the output is (TV = Threshold value)	• TV above = 1 | TV - Hyst. below = 0 • TV above = 0 | TV - Hyst. Below = 1 • TV below = 1 | TV + Hyst. above = 0 • Below TV = 1 | Above TV + Hyst. = 0

Here it is set whether delays can be set via objects.

Delays can be set via objects (in seconds)	No • Yes

Switching delays ignore short-term temperature fluctuations around the threshold value or threshold value and hysteresis for the switching output.

Switching delay from 0 to 1	none • 5 s ... 2 h
Switching delay from 1 to 0	none • 5 s ... 2 h

Here you set when the switching output is to be sent to the bus.

Switching output sends	• If there is a 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

When sending periodically, the temperature threshold value switching output is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

Block:

With the help of the "Blocking" input object, the switching output can be blocked, e.g. by a manual command (push button).

Use switching output block	No • **Yes**

The block can take effect at value 0 or 1, depending on the intended use.

Assessment of the block object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release

An object value up to the 1st communication is specified here.

Blocking object value before first communication	0 • 1

The behaviour of the switching output during locking can be set.

Switching output behaviour	
On blocking	• Do not send message • send 0 • send 1
On release (with 2 second release delay)	[Dependent on the "Switching output sends" setting]

The behaviour of the switching output on release is dependent on the value of the parameter "Switching output sends" (see "Switching output")

Switching output sends on change	do not send message • Status object/s send/s
Switching output sends on change to 1	do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status

Switching output sends on change to 1 and periodically	if switching output = 1 ➔ send 1
Switching output sends on change to 0 and periodically	if switching output = 0 ➔ send 0

5.8. Wind

The wind measurement value can be sent to the bus and further processed there by other participants.

Measurement	• Do not send • send periodically • send if there is a change • send on change and periodically

When sending on change, the wind measurement value is sent on the bus as soon as it changes by the percentage set here.

On change of *(is only transmitted if "on change" is selected)*	2% • 5% • 10% • 25% • 50%

When sending periodically, the wind measurement value is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

The highest wind measurement value since programming or a reset can be sent to the bus. This value can be reset via object no. 47 “Wind measurement value reset max.

Use maximum value (Values are not retained after reset)	No • Yes

5.8.1. Wind threshold value 1 / 2 / 3

The wind threshold values are used to carry out certain actions when the wind speed exceeds or falls below a certain value, e.g. protection functions for shades or windows.

Use threshold value 1 / 2 / 3	No • Yes

Each threshold value can be set individually.

Threshold value / start threshold value in 0.1 m/s	1... 350; 80

All other settings corresponding to those of temperature threshold values (see *Temperature threshold value 1 / 2 / 3 / 4*, page 33).

5.9. Brightness

If the shade automation is to be used, a threshold value must be active!

The Windancer KNX weather station has three brightness sensors (east, south and west), each with 3 brightness threshold values.

The Windancer KNX-GPS weather station has three brightness sensors and uses the maximum value of these with 4 brightness threshold values.

Sensor (East / South / West)

The weather station detects the current brightness. This value can be sent to the bus and further processed there by other participants.
In the version with GPS reception, the highest currently measured value of the three internal sensors is used as the brightness value. In the version without GPS reception, the brightness is measured separately from the three directions east, south and west.

Measurement	• Do not send • send periodically • send if there is a change • send on change and periodically

When sending on change, the brightness measurement value sent on the bus as soon as it changes by the percentage set here.

at and above change in % *(is only sent if "on change" is selected)*	2% • 5% • 10% • 25% • 50%

When sending periodically, the brightness measurement value is sent on the bus in a fixed cycle that can be set here.

Send cycle *(only if "periodically" is sent)*	5 s ... 2 h

5.9.1. Brightness threshold value (East / South / West) 1 / 2 / 3 (/ 4)

The brightness threshold value values are used to perform certain actions when the illuminance exceeds or falls below an illuminance in the kilolux range.

Use threshold value 1 / 2 / 3 (/ 4)	No • Yes

Each threshold value can be set individually.

Threshold value / start threshold value in klx	1 ... 150; 60

All other settings corresponding to those of temperature threshold values (see *Temperature threshold value 1 / 2 / 3 / 4*, page 33).

5.10. Twilight

5.10.1.Twilight threshold value 1 / 2 / 3

The twilight threshold values are used to perform certain actions when the illuminance exceeds or falls below an illuminance in the lux range.

Use threshold value 1 / 2 / 3	No • Yes

Each threshold value can be set individually.

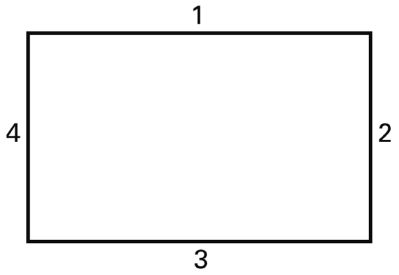
Threshold value / start threshold value in lux	1 ... 1000; 200

All other settings corresponding to those of temperature threshold values (see *Temperature threshold value 1 / 2 / 3 / 4*, page 33).

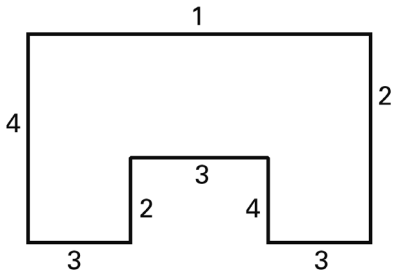
5.11. Shading (Windancer KNX-GPS)

5.11.1.Classifying the façades for the control unit

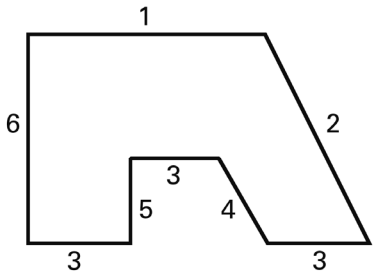
The control options for shadings (shadow edge tracking and slat tracking) are façade-related functions.



Most buildings have 4 façades. In principle, the sun protection of each façade should be controlled separately.



Even in buildings with a U-shaped layout, only 4 façades have to be controlled differently, as several have the same alignment.



In buildings with an asymmetrical layout the façades with a non-right-angled orientation (2, 4) must be controlled separately.

Curved/round fronts should be divided into several façades (segments) to be controlled individually.

If a building has more than 8 façades, another weather station should be used.

Depending on the location, it may make sense to use an additional wind speed sensor from 5 or 6 façades. When there are several buildings, wind measurement should take place separately for each building, as, depending on the positions of the buildings in relation to one another, different wind speeds may occur.

5.12. Shade settings (Windancer KNX-GPS)

The weather station model with GPS receiver calculates the direction (azimuth) and altitude (elevation) of the sun from current time data and position. Sending the sun position is purely informative.

Sun position	• Do not send • send periodically • send if there is a change • send on change and periodically

If the position of the sun changes by the angle set here, the value is sent to the bus.

On change of *(is only transmitted if "on change" is selected)*	1 ° ... 15 °

When sending periodically, the sun position is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 1 min

How many façades are used depends on the project requirements, see chapter “Classifying the façades for the control unit” on page 38.

Use façade 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8	No • Yes

Measures for summer heat protection can be initiated via the heat protection temperature or the object output “Heat protection status” (number 114), e.g. closing roller shutters.

Use heat protection temperature	No • **Yes**

The appropriate heat insulation temperature depends on the project requirements.

Heat protection temperature in °C	15 ... 50; 35

The hysteresis value determines by how many °C the temperature must fall below the threshold value until the heat protection is inactive again.

Hysteresis in °C	5...20
Heat protection is (HPTV = Heat protection threshold value)	HPTV above = active HPTV - hyst. below = inactive

Sending only on change or even only on change in one direction (1 = active or 0 = inactive) reduces the load on the bus.

"Façades heat protection status" transmits	• If there is a 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

When sending periodically, the object “Façade heat protection status” is sent on the bus fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 1 min

5.13. Façade settings (Windancer KNX-GPS)

For each façade, the shade conditions (brightness, position of the sun) and the façade settings (architectural characteristics such as orientation or slat type) can be specified.

Only when these conditions are met is the shading action executed, see chapter “Façade actions (Windancer KNX-GPS)” on page 49.

Shade conditions:

The first condition for shading is that the brightness limit value is exceeded. The threshold value set up accordingly in advance is selected here. For explanations of the brightness threshold value, see chapter “Brightness threshold value (East / South / West) 1 / 2 / 3 (/ 4)” on page 37.

Brightness condition fulfilled if:	
Increased brightness	Brightness threshold value 1 / 2 / 3 / 4

The brightness threshold value is additionally provided with a hysteresis, with the help of which smaller brightness fluctuations around the threshold value are filtered out.

Brightness condition not fulfilled if: Reduced brightness Threshold value - hysteresis	
Hysteresis in % of the threshold value	0 ... 50; 20

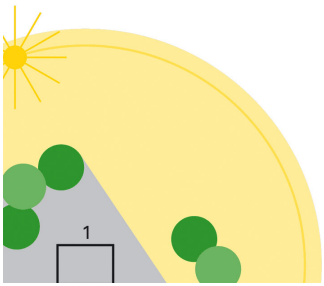
The sun position condition defines the position of the sun at which shading is to take place. Generally, the sun direction set here should correspond to the orientation of the façade. In addition, the shadows cast by roof overhangs, neighbouring buildings or trees can be taken into account and these angled areas can also be excluded from shading. The aim is to shade only when the façade is in the sun.
For the direction of the sun (azimuth), predefined angle ranges can be used or an own angle range can be specified numerically.

Sun position condition fulfilled if:	
Sun	• from the East (Azimuth 0°...180°) • from the South-east (Azimuth 45°...225°) • from the South (Azimuth 90°...270°) • from the south-west (Azimut 135°...315°) • from the West (Azimuth 180°...360°) • in the range

For numeric setting of the sun's range:

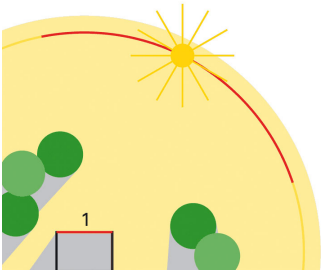
Sun	**in the range**
Azimuth [°] from	0 ... 360; 90
Azimuth [°] to	0 ... 360; 270
Elevation [°] from	0 ... 90
Elevation [°] to	0 ... 90

Azimut setting example



Top view:

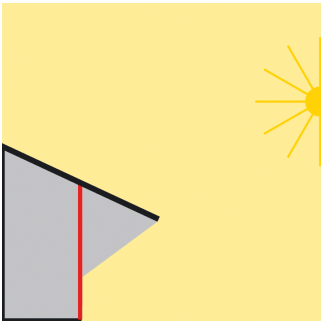
In the morning, for example, the building is fully shaded by surrounding trees.



Top view:

For façade 1, shading must only be active in the azimuth marked red, as the sun can then shine on to the building without obstruction

Elevation setting example



Side view:

When the sun's position is high, the façade is only shaded by the roof overhang. Shading is only necessary if the sun is low (in the figure approx. below 53°).

Shade settings

The shading can be adjusted according to the position of the sun. See chapter “Using shadow edge tracking and slat tracking” on page 44.

The **shadow edge tracking** is only usable with a sunshade which is moved from the top downwards, such as shutters and blinds, and defines how far the sun may shine into the room. See chapter “Shadow edge tracking” on page 43.

The higher the sun is, the more the blind can be raised without the sun penetrating deeper into the room.

The **slat tracking** is only suitable for slat blinds and, by tilting the slats, ensures that no direct sun but as much daylight as possible enters the room. See chapter “Slat tracking” on page 43.

Type of tracking	• No tracking • Shadow edge tracking • Slat auto-guide • Shadow edge tracking and slat auto-guide

5.13.1.Shadow edge tracking

Type of tracking	**Shadow edge tracking**

For the correct calculation of the shadow edge tracking, the compass direction and inclination of the façade must be entered. More in chapter "Orientation and inclination of the façade" on page 45.

Orientation of the façade in ° [North 0°, East 90°, South 180°, West 270°]	0 ... 360; 180
Inclination of the façade in ° [0° = no inclination]	-90 ... 90; 0

The distance from the floor to the top edge of the window (window height) is required for correct shadow edge tracking.

Window height in cm	1 ... 1000; 150

The maximum penetration depth defines how far the sun may shine into the room as seen from the façade/window area. This can prevent sensitive plants from being exposed to direct sunlight, for example.

Maximum penetration depth of the sun into the room in cm	10 ... 250; 50

The fineness of the tracking is set by the movement in cm.

From a shadow shift of... cm auto-tracking is performed	1 ... 50; 10

5.13.2.Slat tracking

Type of tracking	**Slat tracking**

For the correct calculation of the slat tracking, the compass direction and inclination of the façade must be entered. More in chapter "Orientation and inclination of the façade" on page 45.

Orientation of the façade in ° [North 0°, East 90°, South 180°, West 270°]	0 ... 360; 180
Inclination of the façade in ° [0° = no inclination]	-90 ... 90; 0

The alignment, width and spacing of the slats are required for correct slat tracking. More in chapter "Slat types and determination of width and spacing" on page 46.

Slat orientation	horizontal • vertical
Slat width in mm	1 ... 1000; 50
Slat distance in mm	1 ... 1000; 50

The fineness of the tracking is set by the minimum angle change.

Minimum angle change in ° for transmitting a new slat position	1 ... 90; 10

The slat angles in the upper stop position (0%) and lower stop position (100%) differ depending on the type of blind. More in chapters “Slat position for horizontal slats” on page 47 and “Slat position for vertical slats” on page 48.

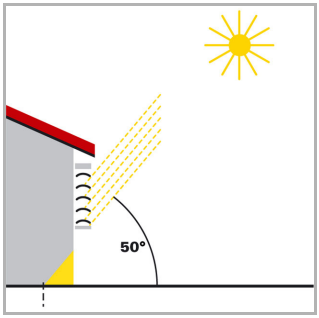
Slat angle in ° after positioning command 0%	0 ... 180; 90
Slat angle in ° after positioning command 100%	0 ... 180

5.13.3.Using shadow edge tracking and slat tracking

With **shadow edge tracking** the sunshade is not moved down fully; rather it is moved only so far that the sun can still shine a parametrisable distance (e.g. 50 cm) into the room.

The shadow edge tracking is only usable with a sunshade which is moved from the top downwards (e.g. shutters, textile shades or blinds with horizontal slats). This function is not usable with sunshades which are pulled in front of a window from one or both sides.

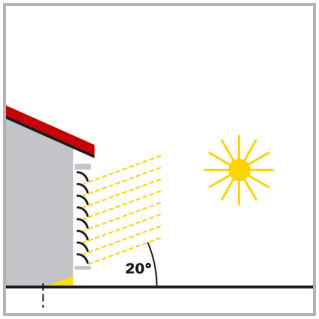
During **slat tracking** the horizontal slats of shutters are not fully closed but rather automatically adjusted according to the position of the sun so that it cannot shine directly into the room. Diffuse daylight can still enter the room through the slats and contribute to dazzle-free room lighting. Using slat tracking with external blinds, the entry of warm air into the room through sunshine can be avoided and, at the same time, energy costs for lighting the room can be reduced.



Sunshade when the position of the sun is high

The sunshade is only partially closed and automatically moved down only enough so that the sun cannot shine further into the room than specified via the maximum permitted penetration depth.

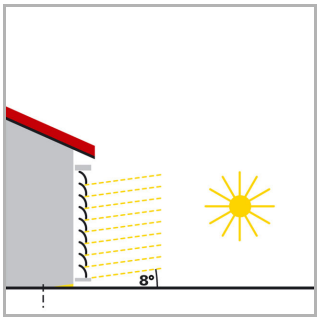
The slats can be set almost vertically without the sun shining directly into the room.



Sunshade when the sun is in a central position

The sunshade is automatically moved down only far enough so that the sun does not exceed the maximum permitted penetration depth in the room.

The slats are automatically closed further, so that the sun cannot shine directly into the room. Despite that, diffuse daylight can still reach the room and so contribute to the room lighting.

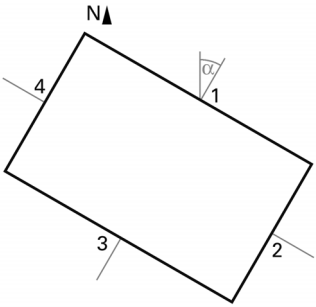


Sunshade when the position of the sun is low

The sunshade is automatically moved down almost fully, so that the sun does not shine too far into the room.

The slats are automatically closed further, so that the sun does not shine in directly.

5.13.4.Orientation and inclination of the façade



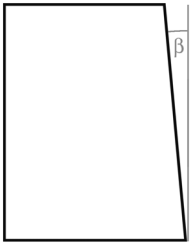
Top view

The façade orientation corresponds to the angle between the North-South axis and the façade vertical. The angle α here is measured in a clockwise direction (North corresponds to 0°, East 90°, South 180° and West 270°).

The façade orientations result as follows:

Façade 1: α
Façade 2: α + 90°
Façade 3: α + 180°
Façade 4: α + 270°

Example: The building in the illustration is turned α = 30° to the east i.e. the façade alignment is 30°, 120°, 210° and 300°



Side view

If a façade surface is not oriented vertically, this must be taken into account. A forward inclination of the façade is counted as a positive angle; a backwards inclination (as in the picture) as a negative angle. This also allows a sunshade of a window built into a sloping roof surface to be controlled according to the current position of the sun.

If a façade is not a flat surface, but rather arched or bent, it must be subdivided into several segments that are controlled separately.

5.13.5.Slat types and determination of width and spacing

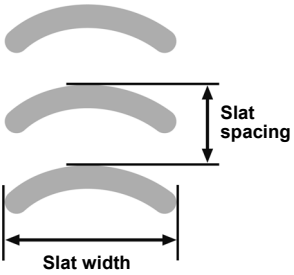
With slat tracking, a distinction is made between a sunshade or glare protection with horizontal slats and one with vertical slats.

A sunshade with horizontal slats (e.g. external shutter) is typically moved downwards from the top. By contrast, an internal glare protector often consists of thin strips of material (vertical slats), which can be rotated around 180° and are pulled out from one or both sides of the window.

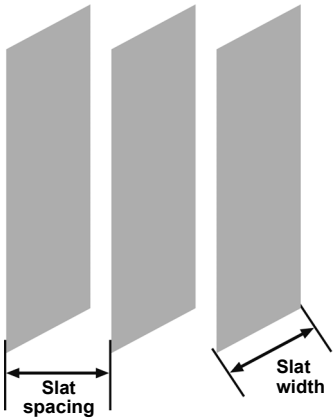
Both types of slat can be adjusted by the weather station so that no direct sunlight falls into the room, but as much diffuse daylight as possible does.

In order for slat tracking to set the slats correctly, their width and spacing from one another must be known.

Horizontal slats

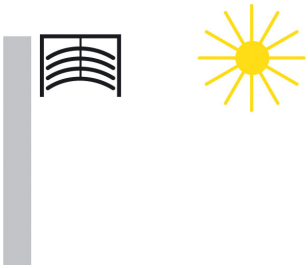


Vertical slats



5.13.6.Slat position for horizontal slats

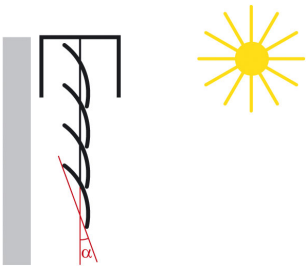
For blind drives with 2 limit switches, the upper end position (i.e. sunshade fully open) is controlled via the value 0% or reported as status.



Sunshade opened / upper stop position / 0%

If the lower stop position is to be approached, this is specified to the blinds actuator as sun position "100%" or it will report reaching the lower stop position (i.e. sunshade fully closed) using this value. If blinds are moved down from the upper stop position, the slats first turn into an almost vertical position and the sunshade moves with closed slats to the lower stop position.

If the blinds are in the lower end position and the slats are fully closed, this slat position is described as both "vertical" and "100%". Normally, however, fully closed slats do not have an exactly vertical position ($\alpha = 0°$) but rather form a slight angle with the vertical. This angle must be determined during slat tracking and entered via the parameter “Slat angle in ° after position command 100%”.

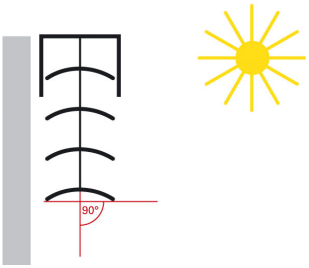


Sunshade and slats closed / lower stop position / 100%

Slat position 100%

From its "vertical" position (completely closed, 100%) the slats can be adjusted to their horizontal position (fully opened, $\alpha = 90°$). For this, the drive used for the blinds defines whether this adjustment can take place almost continuously in many small steps (as with SMI drives, for example) or whether it is only possible in a few large steps (as with most standard drives).
With standard blinds, there are usually two possible angles that can be entered in the parameter “Slat angle in ° after position command 0%”. With both settings, it is impor-

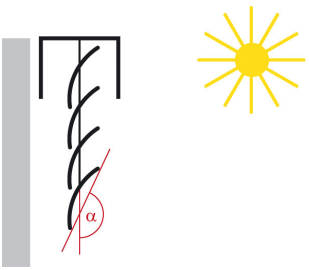
tant that the associated actuator that controls the blinds is also set accordingly! The first option is to enter this angle α = 90°. This setting is adequate for the glare protector.



Slat position horizontal / fully opened

α = 90°

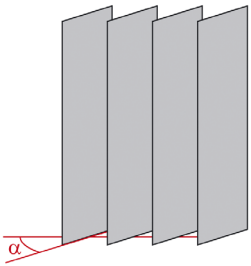
With standard blinds, the slats can be adjusted further via their horizontal position past the point where the slat adjustment ends and the blinds begin to move upwards. The slats then form an angle between 90° and 180° with the vertical. This maximum angle can be entered as a second option in the parameter “Slat angle in ° after position command 0%”. With this setting, all angles from approx. 0° to approx. 180° can be approached.



Slat position at the beginning of movement UP

5.13.7.Slat position for vertical slats

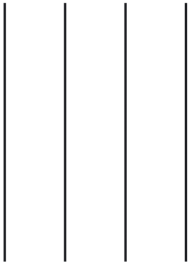
For an internal blind or privacy screen with vertical slats, the position in which the slats are completely closed is controlled or signalled as slat position 100%. This is the position in which the glare protection is moved from its lateral end position in front of the window. For this, the angle formed by the slats with the direction of movement is >0°.



View from the outside

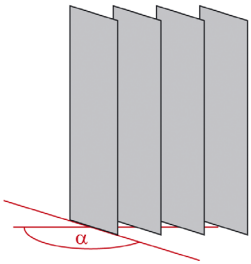
Fully opened vertical slats /
Slat position 100%

If the slats are fully open, the slats form an angle of 90° with the direction of travel from "Glare protector fully open" to "Glare protector fully closed".
Depending on the blinds used, there are usually two possible angles that can be entered in the parameter "Slat angle in ° after position command 0%". With both settings, it is important that the associated actuator that controls the blinds is also set accordingly! The first option is to enter this angle α = 90°. This setting is adequate for the glare protector.



Fully opened vertical slats /
Slat position 0%

If the glare protector is later retracted (i.e. opened), in the process the vertical slats are turned into a position that is somewhat less than 180°. This maximum angle can be entered as a second option in the parameter "Slat angle in ° after position command 0%". With this setting, all angles from approx. 0° to approx. 180° can be approached.



View from the outside

Vertical slats at the beginning of movement UP

5.14. Façade actions (Windancer KNX-GPS)

If the brightness condition is fulfilled for the specified duration and the sun position condition is fulfilled, the actions described below are executed. For conditions see chapter "Façade settings (Windancer KNX-GPS)" on page 40.
With the delay time, higher illuminance levels, for example due to a break in the clouds, can be "faded out" for a short time.

If it is bright enough (brightness condition fulfilled)	
for more than	0 s … 2 h; 2 min
AND	
The sun shines on the façade	
(sun position condition fulfilled)	

Actions:
- Façade status object is set to the value = 1.
- If shadow edge tracking is activated, the calculated position is approached. Otherwise, the movement position set here is approached.
- If slat tracking is activated, the calculated position is approached. Otherwise, the slat angle set here is approached.

Then: →Object "façade 1 status" = 1	
→ Movement position in %	0 ... 100 (or follow shadow edge tracking)
→ Slat position in %	0 ... 100 (or follows slat tracking)

If the brightness condition is no longer fulfilled for the duration specified here, the actions of the "first retraction level" described below are carried out.
With the delay time, lower illuminance levels, for example due to passing clouds, can be "faded out" for a short time.

If it is not bright enough	
for more than	0 s ... 2 h; <u>10 min</u>

This is the first retraction level that can be used to not yet fully retract the shade. Such an intermediate step is particularly pleasant with large windows, as a little more light is let in, but the sunshade position is also quickly reached again when it gets lighter again shortly afterwards.
Here it is recommended not to change the movement position and to set the slat position to maximum light transmission.

Actions:
- Movement position can be changed.
- Slat position can be changed.

If no change is selected, then this "first retraction level" is skipped.

Then:	
→ Change movement position	Yes • <u>No</u>
Movement position in % *(only if movement position should be changed)*	0 ... <u>100</u>
→ Change slat position	<u>Yes</u> • No
Slat position in % *(only if slat position should be changed)*	<u>0</u> ... 100

If the brightness condition is no longer fulfilled for the duration specified here, the actions described below are carried out. The same applies if the sun position condition is not longer fulfilled.

If afterwards it is still not bright enough	0 s ... 2 h; <u>30 min</u>
OR	

The sun is no longer shining on the façade

Actions:
- Façade status object is set to the value = 0
- Movement position can be changed.
- Slat position can be changed.

If no change is selected, the shade remains in the current position. This can be used if the shade has already been completely retracted in the "first retraction level" or if the shade is not to be completely retracted for other reasons.

Then: → Object "Façade 1 status“ = 0	
→ Change movement position	Yes • No
Movement position in % (only if movement position should be changed)	0 ... 100
→ Change slat position	Yes • No
Slat position in % (only if slat position should be changed)	0 ... 100

Transmission behaviour of the objects:

The change of a movement or slat position is immediately sent to the bus.

Movement position and slat position	• send if there is a change • send on change and periodically

For additional periodic sending, both objects “Façade X: Movement position” and “Façade X: slat position” is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 2 min

When the “Façade X status” object is to be sent on the bus is set here.

Object sends "Façade X status"	• If there is a 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

When sending periodically, the object “Façade X: status” is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 2 min

Heat protection:

The heat protection function can be used to close shades in order to shield from heat. For this, the heat protection temperature must be activated in the "Shading" section. See heat protection temperature in chapter "Shade settings (Windancer KNX-GPS)" on page 39.

Use heat protection	**Yes** • No
Movement position in % *(only if heat protection is used)*	0 ... 100
Slat position in % *(only if heat protection is used)*	0 ... 100

Block and safety:

The façade has its own block object (Façade X: Block (1 = blocked)). For example, a manual command (push-button) can lock the automatic shading system.

Behaviour after block	• react to the last automatic command • wait for the next automatic command

Before the first communication, i.e. after commissioning or bus voltage restoration, the block can be active (1) or not (0).

Blocking object value before first communication	0 • 1

In addition, a safety function can be used that moves the shade into the safe position, for example.

Use safety (lower priority than block)	**Yes** • No

If the safety object is 1, the shade can be retracted or retain its position, but all other automatic actions are ignored.

Action for safety = 1	• do not send positions • move to safe position (0% / 0%)

When the safety status is removed, i.e. when a 0 is received via the safety object, the last stored automatic command can be executed or the next one can be waited for.

Action for safety = 0	• react to the last automatic command • wait for the next automatic command

5.15. Calendar timer (Windancer KNX-GPS)

The calendar timer defines switching sequences for specific periods during the year. For example, a garden pond pump can only be operated during the summer months.

Use period 1 / 2 / 3	**Yes** • No

5.15.1. Calendar clock period 1 / 2 / 3

The start date and end date are defined.

from:	
Month	January ... December
Day	1 ... 29 / 1 ... 30 / 1 ... 31 (according to month)
Up to and including:	
Month	January ... December
Day	1 ... 29 / 1 ... 30 / 1 ... 31 (according to month)

5.15.2. Calendar clock period 1 / 2 / 3, Sequence 1 /2

A sequence sets the switch-on and switch-off time for each day of the set period.

Use sequence 1 / 2	**Yes** • No
Switch-on time hours	0 ... 23
Switch-on time minutes	0 ... 59
Switch-off time hours	0 ... 23
Switch-off time minutes	0 ... 59

If the switching output of the calendar clock is only used for internal logic, then it does not have to be sent to the bus.

Switching output sends	• not send • 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

When sending periodically, the object “Calendar timer time X, Seq. X: switching output” is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 1 min

5.16. Weekly timer (Windancer KNX-GPS)

The weekly timer offers the possibility of defining different switching times on each day of the week. For example, on weekdays the shutters can be opened every morning and closed again in the evening. 4 sequences per day are available.

Monday ... Sunday	not active • active

5.16.1.Weekly clock Mo, Tu, We, Th, Fr, Sa, Su 1 ... 4

A sequence sets the switch-on and switch-off time for the day of the week.
If, for example, 8:35 is set as the switch-on time, the output switches off on the change from 8:34 to 8:35.
If, for example, 15:35 is set as the switch-off time, the output switches off on the change from 15:35 to 15:36.

Switch-on time hours	0 ... 23
Switch-on time minutes	0 ... 59
Switch-off time hours	0 ... 23
Switch-off time minutes	0 ... 59

A time switching sequence can be assigned to an OR connection. This allows another condition to be added directly in the OR connection in addition to the time. For example, a roller shutter can be opened every morning at 7:00 OR when it is brighter than 10 lux. More in chapter “Use of the weekly clock” on page 54.

The sequence 1 / 2 / 3 / 4 should be allocated to OR 1 / 2 / 3 / 4	Yes • No

If the switching output of the weekly timer is only used for internal logic, then it does not have to be sent to the bus.

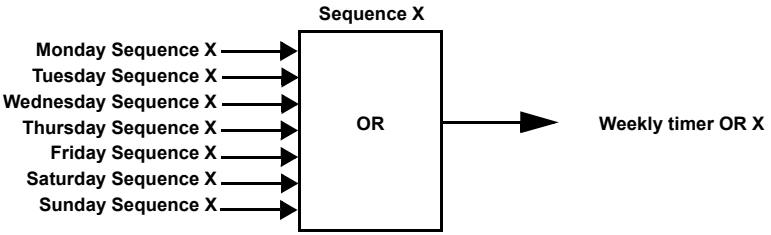
Switching output sends	• not send • on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically

When sending periodically, the object “Weekly timer [week day] X: switching output” is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h; 1 min

5.16.2.Use of the weekly clock

If the sequence X of a weekday is assigned to the OR connection X, all these assignments are OR-linked with each other. The logical result of this connection can be used as input for an OR logic gate.



5.17. Logic

The device has 16 logic inputs, six AND and six OR logic gates.
For each logic input, the object value can be assigned before the first communication, which is used for the initial commissioning and when the voltage returns.

Use logic inputs	No • Yes
Object value prior to 1st Communication for:	
Logic input 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16	0 • 1

Which logic gate should be used is selected here.

AND logic

AND Logic 1 / 2 / 3 / 4 / 5 / 6	not active • active

OR logic

OR Logic 1 / 2 / 3 / 4 / 5 / 6	not active • active

5.17.1.AND Logic 1 / 2 / 3 / 4 / 5 / 6

Four inputs can be defined for each logic gate.

1. / 2. / 3. / 4. Input	• Do not use • all switching events that the device provides (see "AND logic connection inputs")

Each logic output can transmit one 1-bit or two 8-bit objects.

Logic output sends	• a 1-bit-object • sends two 8-bit objects

If the **output type is a 1-bit-object**, both object values are set.

if logic = 1 ➔object value	1 • 0
if logic = 0 ➔Object value	1 • 0

Here you set when the logic output is to be sent to the bus.

Send behaviour	• on change of logic • 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

When sending periodically, the AND logic object is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

If the **output type is two 8-bit-objects**, the object type and object values are set.

Type of objects	• Value [0…255] • Percent [0…100%] • Angle [0…360°] • Scene call-up [0…63]
If logic = 1 ➔Object A value	0 ... 255
If logic = 0 ➔Object A value	0 ... 255
If logic = 1 ➔Object B value	0 ... 255
If logic = 0 ➔Object B value	0 ... 255

Here you set when the logic output is to be sent to the bus.

Send behaviour	• on change of logic • 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

When sending periodically, the AND logic object is sent on the bus in a fixed cycle that can be set here.

Send cycle *(is sent only if "periodically" is selected)*	5 s ... 2 h

For example, frost protection can be realised as follows:
AND X input 1 = rain (with 2h switch-off delay)
AND X input 2 = temperature GW1 (= 1 on falling below +1.0°C for example)
AND X output A = 0%
AND X output B = 0%

AND X outputs send on change to 1

Block:

Each logic gate has its own block object (AND logic X: output block), for which it is set here whether it blocks on receipt of a 1 or 0.

Assessment of the block object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release

Before the first communication, i.e. after commissioning or bus voltage restoration, the block can be active (1) or not (0).

Blocking object value before first communication	0 • 1

The behaviour of the switching output during locking can be set.

Switching output behaviour	
On blocking	• Do not send message • send 0 • send 1
On release (with 2 second release delay)	[Dependent on the "Switching output sends" setting]

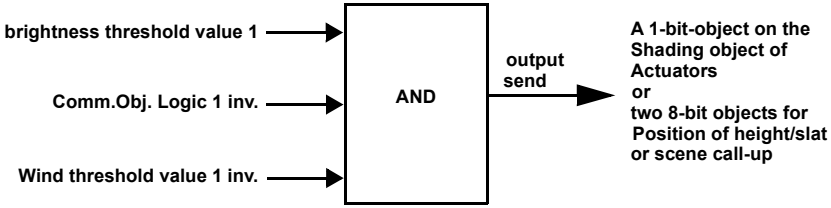
The behaviour of the output on release is dependent on the value of the parameter "send pattern".

Switching output sends on change	do not send message • Status object/s send/s
Switching output sends on change to 1	do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status
Switching output sends on change to 1 and periodically	if switching output = 1 ➔ send 1
Switching output sends on change to 0 and periodically	if switching output = 0 ➔ send 0

5.17.2.Use of the AND logic

Sun automation example

The AND logic can be used, for example, to define the conditions for shading, such as a brightness threshold value, and also the reactivation of shading after a wind alarm and blocking by manual operation were included in this example.



- Brightness threshold value 1: Defines the brightness from which shading will occur.
- Communications object Logic 1 inverted: Blocking function for the sun automation, e.g. via a button (blocking following manual operation). Logic = 0 ➔ released, logic = 1➔ blocked. The "Communication objects logic inputs" must be enabled for this under “Logic” on page 55 and the "Communication object logic 1" must be linked to the push-button via group addresses.
- Wind threshold value 1 inverted: The automation activates again once a wind alarm is over (i.e. if the other conditions are fulfilled, shading will occur again).

5.17.3.AND logic connection inputs

do not use (AND)
do not use (OR)
Logic input 1
Logic input 1 inverted
Logic input 2
Logic input 2 inverted
Logic input 3
Logic input 3 inverted
Logic input 4
Logic input 4 inverted
Logic input 5
Logic input 5 inverted
Logic input 6
Logic input 6 inverted
Logic input 7
Logic input 7 inverted
Logic input 8
Logic input 8 inverted
Logic input 9
Logic input 9 inverted
Logic input 10
Logic input 10 inverted
Logic input 11
Logic input 11 inverted
Logic input 12
Logic input 12 inverted

Logic input 13
Logic input 13 inverted
Logic input 14
Logic input 14 inverted
Logic input 15
Logic input 15 inverted
Logic input 16
Logic input 16 inverted
Temperature Sensor Malfunction = ON
Temperature Sensor Malfunction = OFF
Switching output rain 1
Switching output rain 1 inverted
Switching output rain 2
Switching output rain 2 inverted
Switching output night
Switching output inverted
Switching output temp 1
Switching output temp 1 inverted
Switching output temp 2
Switching output temp 2 inverted
Switching output temp 3
Switching output Temp 3 inverted
Switching output temp 4
Switching output temp 4 inverted
Switching output wind 1
Switching output wind 1 inverted
Switching output wind 2
Switching output wind 2 inverted
Switching output wind 3
Switching output wind 3 inverted
Switching output bright (East / South / West) 1 (Windancer KNX)
Switching output bright (East / South / West) 1 inverted (Windancer KNX)
Switching output bright (East / South / West) 2 (Windancer KNX)
Switching output bright (East / South / West) 2 inverted (Windancer KNX)
Switching output bright (East / South / West) 3 (Windancer KNX)
Switching output bright (East / South / West) 3 inverted (Windancer KNX)
Switching output bright 4
Switching output bright 4 inverted
Switching output Twil 1
Switching output Twil 1 inverted
Switching output Twil 2
Switching output Twil 2 inverted
Switching output Twil 3
Switching output Twil 3 inverted

Windancer KNX-GPS:

GPS Malfunction = ON
GPS Malfunction = OFF

Façade 1 Status
Façade 1 Status inverted
Façade 2 Status
Façade 2 Status inverted
Façade 3 Status
Façade 3 Status inverted
Façade 4 Status
Façade 4 Status inverted
Façade 5 Status
Façade 5 Status inverted
Façade 6 Status
Façade 6 Status inverted
Façade 7 Status
Façade 7 Status inverted
Façade 8 Status
Façade 8 Status inverted
Switching output Cal. clock Per. 1 Seq. 1
Switching output Cal. clock Per. 1 Seq. 1 inverted
Switching output Cal. clock Per. 1 Seq. 2
Switching output Cal. clock Per. 1 Seq. 2 inverted
Switching output Cal. clock Per. 2 Seq. 1
Switching output Cal. clock Per. 2 Seq. 1 inverted
Switching output Cal. clock Per. 2 Seq. 2
Switching output Cal. clock Per. 2 Seq. 2 inverted
Switching output Cal. clock Per. 3 Seq. 1
Switching output Cal. clock Per. 3 Seq. 1 inverted
Switching output Cal. clock Per. 3 Seq. 2
Switching output Cal. clock Per. 3 Seq. 2 inverted
Switching output weekly clock Monday 1
Switching output weekly clock Monday 1 inverted
Switching output weekly clock Monday 2
Switching output weekly clock Monday 2 inverted
Switching output weekly clock Monday 3
Switching output weekly clock Monday 3 inverted
Switching output weekly clock Monday 4
Switching output weekly clock Monday 4 inverted
Switching output weekly clock Tuesday 1
Switching output weekly clock Tuesday 1 inverted
Switching output weekly clock Tuesday 2
Switching output weekly clock Tuesday 2 inverted
Switching output weekly clock Tuesday 3
Switching output weekly clock Tuesday 3 inverted
Switching output weekly clock Tuesday 4
Switching output weekly clock Tuesday 4 inverted
Switching output weekly clock Wednesday 1
Switching output weekly clock Wednesday 1 inverted
Switching output weekly clock Wednesday 2
Switching output weekly clock Wednesday 2 inverted

Switching output weekly clock Wednesday 3
Switching output weekly clock Wednesday 3 inverted
Switching output weekly clock Wednesday 4
Switching output weekly clock Wednesday 4 inverted
Switching output weekly clock Thursday 1
Switching output weekly clock Thursday 1 inverted
Switching output weekly clock Thursday 2
Switching output weekly clock Thursday 2 inverted
Switching output weekly clock Thursday 3
Switching output weekly clock Thursday 3 inverted
Switching output weekly clock Thursday 4
Switching output weekly clock Thursday 4 inverted
Switching output weekly clock Friday 1
Switching output weekly clock Friday 1 inverted
Switching output weekly clock Friday 2
Switching output weekly clock Friday 2 inverted
Switching output weekly clock Friday 3
Switching output weekly clock Friday 3 inverted
Switching output weekly clock Friday 4
Switching output weekly clock Friday 4 inverted
Switching output weekly clock Saturday 1
Switching output weekly clock Saturday 1 inverted
Switching output weekly clock Saturday 2
Switching output weekly clock Saturday 2 inverted
Switching output weekly clock Saturday 3
Switching output weekly clock Saturday 3 inverted
Switching output weekly clock Saturday 4
Switching output weekly clock Saturday 4 inverted
Switching output weekly clock Sunday 1
Switching output weekly clock Sunday 1 inverted
Switching output weekly clock Sunday 2
Switching output weekly clock Sunday 2 inverted
Switching output weekly clock Sunday 3
Switching output weekly clock Sunday 3 inverted
Switching output weekly clock Sunday 4
Switching output weekly clock Sunday 4 inverted
Weekly clock OR 1
Weekly clock OR 1 inverted
Weekly clock OR 2
Weekly clock OR 2 inverted
Weekly clock OR 3
Weekly clock OR 3 inverted
Weekly clock OR 4
Weekly clock OR 4 inverted

5.17.4.OR Logic 1 / 2 / 3 / 4 / 5 / 6

Four inputs can be defined for each logic gate.

1. / 2. / 3. / 4. Input	• Do not use • all switching events that the sensor provides (see "Connection inputs of OR logic")

All settings of the OR logic correspond to those of the AND logic.

5.17.5.OR LOGIC connection inputs

The OR logic connection inputs are the same as those for the AND logic.
Additionally, the following inputs are available for the OR logic:

Switching output AND logic 1
Switching output AND logic 1 inverted
Switching output AND logic 2
Switching output AND logic 2 inverted
Switching output AND logic 3
Switching output AND logic 3 inverted
Switching output AND logic 4
Switching output AND logic 4 inverted
Switching output AND logic 5
Switching output AND logic 5 inverted
Switching output AND logic 6
Switching output AND logic 6 inverted

Questions about the product?

You can reach the technical service of Elsner Elektronik under
Tel. +49 (0) 70 33 / 30 945-250 or
service@elsner-elektronik.de

We need the following information to process your service request:

- Type of appliance (model name or item number)
- Description of the problem
- Serial number or software version
- Source of supply (dealer/installer who bought the device from Elsner Elektronik)

For questions about KNX functions:

- Version of the device application
- ETS version used for the project

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