



Suntracer KNX sl light Weather Station

Item number 70155



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

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

Clarification of signs used in this manual



Safety advice.



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

DANGER!

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

WARNING!

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

CAUTION!

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



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

ETS

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

1. Description

The **Weather Station Suntracer KNX sl light** for the KNX building bus system measures temperature, wind speed and brightness. It recognises precipitation and receives the GPS signal for time and location. In addition, using location coordinates and the time, it calculates the exact position of the sun (azimuth and elevation).

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. Multi-function modules change input data as required by means of calculations, querying a condition, or converting the data point type.

The integrated shade control system allows intelligent sun protection control of up to 5 façades.

The compact housing of the **Suntracer KNX sl light** accommodates the sensors, evaluation circuits and bus-coupling electronics.

Functions:

- **Brightness measurement**(current light strength)
- **GPS receiver**, outputting the current time and location coordinates. The **Weather Station Suntracer KNX sl light** also computes the position of the sun (azimuth and elevation)
- **Shade control** for up to 5 façades
- **Wind measurement**: The wind strength is measured electronically and thus noiselessly and reliably, even during hail, snow and sub-zero temperatures. Even turbulent air and rising winds in the vicinity of the device are recorded
- **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**
- Frost protection for shading systems
- **Weekly and calendar time switch**: All time switching outputs can be used as communication objects.

The **weekly time switch** has 24 periods. Each period can be configured either as an output or as an input. If the period is an output, then the switching time is set per parameter or per communication object.

The **calendar time switch** has 4 periods. Two on/off switching operations, which are executed daily, can be set for each period

- **Switching outputs** for all measured and computed values. Threshold values can be adjusted per parameter or via communication objects
- **8 AND and 8 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
- **8 multi-function modules** (computers) for changing the input data by calculations, by querying a condition or by converting the data point type
- **Summer compensation** for cooling systems. A characteristic curve matches the target temperature in the room to the external temperature and sets the minimum and maximum target temperature values.

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.

1.0.1. Deliverables

- Weather station
- Stainless steel installation band for pole installation
- 4x50 mm stainless steel roundhead screws and 6x30 mm dowels for wall mounting. Use fixing materials that are suitable for the base!

1.1. Technical specification

Housing	Plastic
Colour	White / Translucent
Assembly	Surface mount
Protection category	IP 44
Dimensions	approx. 62 × 71 × 145 (W × H × D, mm)
Weight	approx. 85 g
Ambient temperature	Operation -30...+50°C, storage -30...+70°C
Auxiliary supply	12...40 V DC, 12...28 V AC. An appropriate power supply unit can be purchased from Elsner Elektronik.
Auxiliary current	at 12V DC: max. 185 mA at 24V DC: max. 90 mA at 24V AC: max. 82 mA
Bus current	max. 10 mA
Data output	KNX +/-
BCU type	Integrated microcontroller
PEI type	0
Group addresses	max. 2000
Assignments	max. 2000
Communication objects	864
Temperature sensor:	
Measurement range	-30°C ... +50°C
Resolution	0.1°C
Accuracy	±0.5°C at -30°C ... +25°C ±1.5°C at -30°C ... +45°C
Wind sensor:	
Measurement range	0 m/s ... 35 m/s
Resolution	0.1 m/s
Accuracy	±15% of the measurement value when incoming flow is 45°...315° (Frontal incoming flow corresponds to 180°)
Brightness sensor:	

Measurement range	0 lux ... 150,000 lux
Resolution	1 lux at 0...255 lux 4 lux at 256...2,645 lux 163 lux at 2,646...128,256 lux 762 lux at 128,257...150,000 lux
Accuracy	±15% of the measurement value at 35 lux ... 150,000 lux

The product conforms with the provisions of EU directives.

2. Installation and start-up

2.1. Installation notes



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



CAUTION! **Live voltage!**

There are unprotected live components inside the device.

- National legal regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

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

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

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Installation location

Select an installation position on the building where the sensors can measure wind, rain and sunshine without hindrance. No structural elements should be mounted above the weather station, from which water could continue to drop on the precipitation sensor even after it has stopped raining or snowing. The weather station should not be shaded by structures or, for example, trees.

At least 60 cm of clearance must be left around the device. This facilitates correct wind speed measurement without eddies. At the same time, this prevents spray (raindrops hitting the device) or snow (snow penetration) from impairing the measurement. This also prevents birds from biting it.

Please ensure that the extended awning does not cast shade on the unit, and that it is protected from the wind.

Temperature measurements can also be distorted by external influences such as warming or cooling of the building structure on which the sensor is mounted (sunlight, heating or cold water pipes). Temperature variations from such sources of interference must be corrected in the ETS in order to ensure the specified accuracy of the sensor (temperature offset).

Magnetic fields, transmitters and interference fields from electrical consumers (e.g. fluorescent lamps, neon signs, switch mode power supplies etc.) can block or interfere with the reception of the GPS signal.

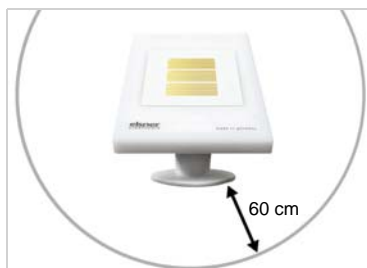


Fig. 1

There must be at least 60 cm clearance to other elements (structures, construction parts, etc.) below, to the sides and in front of the device.

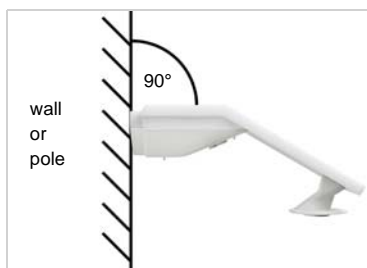


Fig. 2

The device must be attached to a vertical wall (or a pole).



Fig. 3

The device must be mounted in the horizontal (transverse) direction.

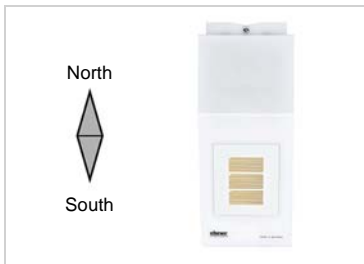


Fig. 4

For installation in the northern hemisphere, the device must be aligned to face south.

For installation in the southern hemisphere, the device must be aligned to face north.

2.3. Device design

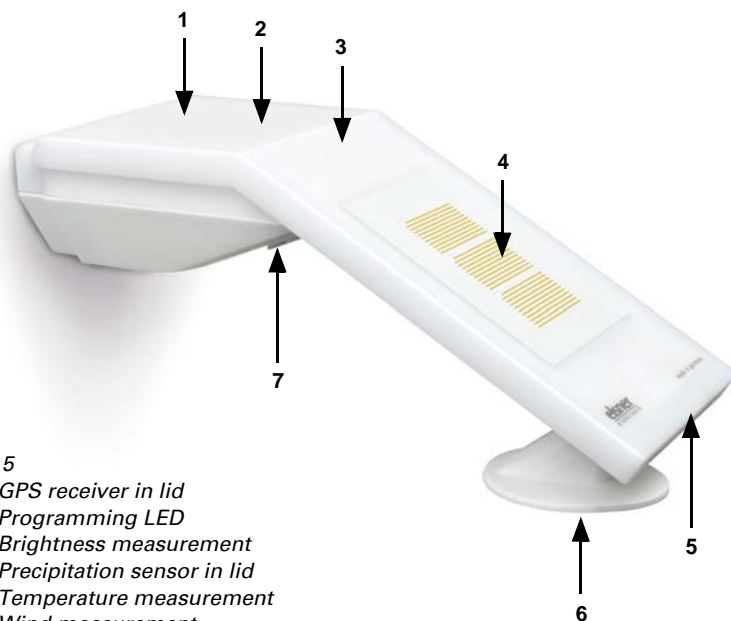


Fig. 5

- 1 GPS receiver in lid
- 2 Programming LED
- 3 Brightness measurement
- 4 Precipitation sensor in lid
- 5 Temperature measurement
- 6 Wind measurement
- 7 Programming key on the underside of the housing (recessed), see *Addressing the equipment*, page 15



ATTENTION!

Sensitive wind sensor.

- Remove the protective transport sticker after installation.
- Do not touch the sensor on the wind measuring element (no. 6).

2.4. Installing the weather station



ATTENTION!

Even a few drops of water can damage the device electronics.

- Do not open the device if water (e.g. rain) can get into it.

2.4.1. Preparation for installation



Fig. 6
Slacken both screws on the lid (top) and lower part (bottom) with a Phillips screwdriver.



Fig. 7
Pull the lid and lower part completely apart. This also releases the plug-in connection between the board in the lid and the socket in the lower part.

2.4.2. Fitting the lower part with mounting

Now, first of all, assemble the lower part of the housing with the integrated mounting for wall or pole installation.

Wall installation

Use fixing materials (dowels, screws) that are suitable for the base.

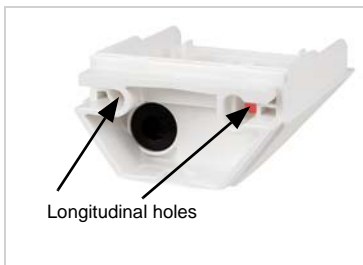


Fig. 8
The device is installed with two screws. Break off the two longitudinal holes in the lower part of the housing.

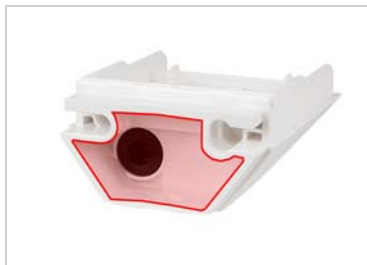
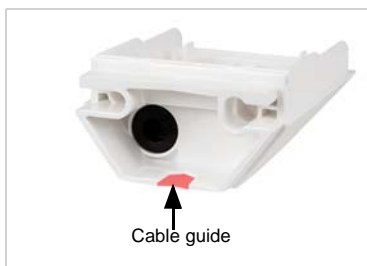


Fig. 9 a+b

a) *If the power lead is to be hidden when installed, it must emerge from the wall in the vicinity of the rear of the housing (marked area).*



b) *If the power lead is to be surface-mounted, the cable guide is broken off. The lead is then fed into the device at the underside of the housing.*

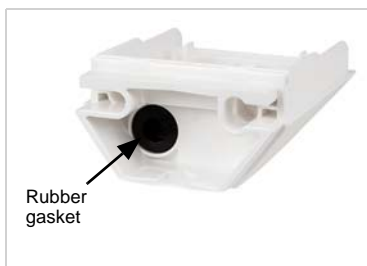


Fig. 10

Feed the power lead through the rubber gasket.

Drilling plan

ATTENTION! The printout of the data sheet does not have original size! A separate, dimensionally correct drilling plan is included ex works and this can be used as a template.

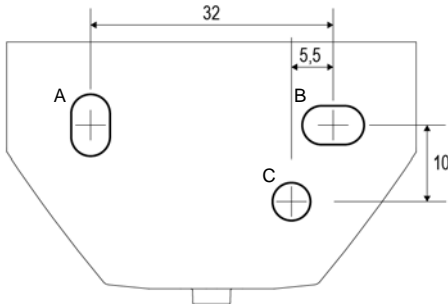


Fig. 11
Dimensions in mm. Variations are possible for technical reasons

A/B 2x longitudinal holes 8 mm x 5.5 mm

C Position of the cable outlet (rubber gasket) in the housing

Pole installation

The device is installed on the pole with the enclosed stainless steel mounting band.



Fig. 12
Feed the mounting band through the eyelets in the lower part of the housing.

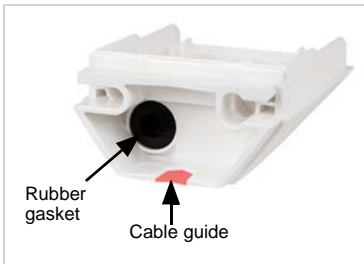


Fig. 13
Break the cable guide off.

Feed the power lead through the rubber gasket.

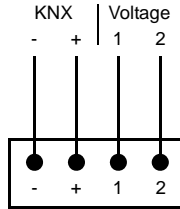
2.4.3. Connection

The connector is in the lower part of the housing.



Fig. 14
Connect
KNX data (+/-) and
power supply (12...40V DC, 12...28V AC, 1|2)
to the connector.

The terminal assignment of the power supply
is polarity-independent.



2.4.4. Closing the installation



Fig. 15
Push the lid on the lower part. This also
makes the plug-in connection between the
board in the lid and the socket in the lower
part.



Fig. 16
Screw the lid (top) and lower part (bottom) to-
gether.

2.5. Instructions for assembly and initial start-up

Remove all transport protection stickers present after installation.

The wind measurement value and thus also all wind switching outputs cannot be out-put until 35 seconds after the power is turned on.

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

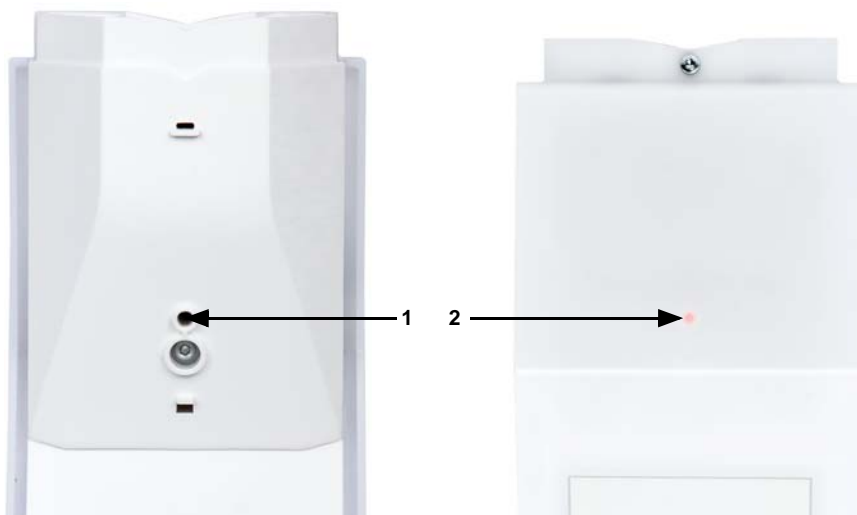
3. Addressing the equipment

The equipment is delivered ex works with the bus address 15.15.250. You program a different address in the ETS by overwriting the address 15.15.250 or teach the device using the programming button.

The programming button can be reached through the opening on the underside of the housing; it is recessed by approx. 15 mm. Use a thin object to reach the key, e. g. a 1.5 mm² wire.

Fig. 17

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



4. Maintenance



WARNING!

Risk of injury caused by components moved automatically!

The automatic control can start system components and place people in danger (e.g. moving windows/awnings if a rain/wind alarm has been triggered while cleaning).

- Always isolate the device from the mains for servicing and cleaning.

The device must regularly be checked for dirt twice a year and cleaned if necessary. In case of severe dirt, the sensor may not work properly anymore.

**ATTENTION**

The device can be damaged if water penetrates the housing.

- Do not clean with high pressure cleaners or steam jets.
-

5. Transfer protocol

Units:

Temperatures in degrees Celsius

Brightness in Lux

Wind in metres per second

Air pressure in Pascal

Azimuth and elevation in degrees

5.1. List of all communications objects

Abbreviation flags:

C Communication

R Read

W Write

T Transmit

U Update

No.	Text	Function	Flags	DPT type	Size
1	Software version	Output	R-CT	[217.1] DPT_Version	2 bytes
21	Signal LED object 1s cycle	Input	-WC-	[1.1] DPT_Switch	1 bit
22	Signal LED object 4s cycle	Input	-WC-	[1.1] DPT_Switch	1 bit
24	GPS malfunction (0 : OK 1: NOK)	Output	R-CT	[1.2] DPT_Bool	1 bit
25	Date / time	Output	RWCT	[19.1] DPT_DateTime	8 bytes
26	Date	Output	RWCT	[11.1] DPT_Date	3 bytes
27	Time	Output	RWCT	[10.1] DPT_TimeOfDay	3 bytes
28	Date and time query	Input	-WC-	[1.017] DPT_Trigger	1 bit
30	Location: Northern latitude [°]	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
31	Location: Eastern longitude [°]	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
34	Rain: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
35	Rain: Switching output with fixed delays	Output	R-CT	[1.1] DPT_Switch	1 bit
36	Rain: Switching delay to rain	Input	-WC-	[7,005] DPT_TimePeriodSec	2 bytes
37	Rain: Switching delay to no rain	Input	-WC-	[7,005] DPT_TimePeriodSec	2 bytes
41	Temperature sensor: Malfunction	Output	R-CT	[1.1] DPT_Switch	1 bit
42	Temperature sensor: External measurement	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
43	Temperature sensor: Measurement value	Output	R-CT	[9.1] DPT_Value_Temp	2 bytes
44	Temperature sensor: Total measurement	Output	R-CT	[9.1] DPT_Value_Temp	2 bytes
45	Temperature sensor: Min./Max. measurement query	Input	-WC-	[1.017] DPT_Trigger	1 bit

No.	Text	Function	Flags	DPT type	Size
46	Temperature sensor: Minimum measurement	Output	R-CT	[9.1] DPT_Value_Temp	2 bytes
47	Temperature sensor: Maximum measurement	Output	R-CT	[9.1] DPT_Value_Temp	2 bytes
48	Temperature sensor: Min./Max. measurement reset	Input	-WC-	[1.017] DPT_Trigger	1 bit
51	Temp. threshold value 1: Absolute value	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
52	Temp. threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
53	Temp. threshold value 1: Switching delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
54	Temp. threshold value 1: Switching delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
55	Temp. threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
56	Temp. threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
58	Temp. threshold value 2: Absolute value	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
59	Temp. threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
60	Temp. threshold value 2: Switching delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
61	Temp. threshold value 2: Switching delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
62	Temp. threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
63	Temp. threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
65	Temp. threshold value 3: Absolute value	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
66	Temp. threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
67	Temp. threshold value 3: Switching delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
68	Temp. threshold value 3: Switching delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
69	Temp. threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
70	Temp. threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
72	Temp. threshold value 4: Absolute value	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
73	Temp. threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
74	Temp. threshold value 4: Switching delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
75	Temp. threshold value 4: Switching delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
76	Temp. threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
77	Temp. threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
81	Frost alarm	Output	R-CT	[1.1] DPT_Switch	1 bit
95	Brightness sensor measurement	Output	R-CT	[9.4] DPT_Value_Lux	2 bytes
96	Brightness sensor 2 measurement	Output	R-CT	[9.4] DPT_Value_Lux	2 bytes
97	Brightness sensor 3 measurement	Output	R-CT	[9.4] DPT_Value_Lux	2 bytes
98	Total brightness measurement	Output	R-CT	[9.4] DPT_Value_Lux	2 bytes
101	Brightness sensor threshold value 1: Absolute value	Input/Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
102	Brightness sensor threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
103	Brightness sensor threshold value 1: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
104	Brightness sensor threshold value 1: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
105	Brightness sensor threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
106	Brightness sensor threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
108	Brightness sensor threshold value 2: Absolute value	Input/Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
109	Brightness sensor threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
110	Brightness sensor threshold value 2: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
111	Brightness sensor threshold value 2: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
112	Brightness sensor threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
113	Brightness sensor threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
115	Brightness sensor threshold value 3: Absolute value	Input/Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
116	Brightness sensor threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
117	Brightness sensor threshold value 3: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
118	Brightness sensor threshold value 3: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
119	Brightness sensor threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
120	Brightness sensor threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
122	Brightness sensor threshold value 4: Absolute value	Input/Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
123	Brightness sensor threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
124	Brightness sensor threshold value 4: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
125	Brightness sensor threshold value 4: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
126	Brightness sensor threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
127	Brightness sensor threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
129	Brightness sensor 2 threshold value 1: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
130	Brightness sensor 2 threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
131	Brightness sensor 2 threshold value 1: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
132	Brightness sensor 2 threshold value 1: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
133	Brightness sensor 2 threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
134	Brightness sensor 2 threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
136	Brightness sensor 2 threshold value 2: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
137	Brightness sensor 2 threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
138	Brightness sensor 2 threshold value 2: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
139	Brightness sensor 2 threshold value 2: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
140	Brightness sensor 2 threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
141	Brightness sensor 2 threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
143	Brightness sensor 2 threshold value 3: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
144	Brightness sensor 2 threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
145	Brightness sensor 2 threshold value 3: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
146	Brightness sensor 2 threshold value 3: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
147	Brightness sensor 2 threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
148	Brightness sensor 2 threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
150	Brightness sensor 2 threshold value 4: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
151	Brightness sensor 2 threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
152	Brightness sensor 2 threshold value 4: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
153	Brightness sensor 2 threshold value 4: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
154	Brightness sensor 2 threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
155	Brightness sensor 2 threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
157	Brightness sensor 3 threshold value 1: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
158	Brightness sensor 3 threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
159	Brightness sensor 3 threshold value 1: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
160	Brightness sensor 3 threshold value 1: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
161	Brightness sensor 3 threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
162	Brightness sensor 3 threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
164	Brightness sensor 3 threshold value 2: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
165	Brightness sensor 3 threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
166	Brightness sensor 3 threshold value 2: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
167	Brightness sensor 3 threshold value 2: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
168	Brightness sensor 3 threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
169	Brightness sensor 3 threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
171	Brightness sensor 3 threshold value 3: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
172	Brightness sensor 3 threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
173	Brightness sensor 3 threshold value 3: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
174	Brightness sensor 3 threshold value 3: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
175	Brightness sensor 3 threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
176	Brightness sensor 3 threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
178	Brightness sensor 3 threshold value 4: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
179	Brightness sensor 3 threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
180	Brightness sensor 3 threshold value 4: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
181	Brightness sensor 3 threshold value 4: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
182	Brightness sensor 3 threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
183	Brightness sensor 3 threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
185	Total brightness threshold value 1: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
186	Total brightness threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
187	Total brightness threshold value 1: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
188	Total brightness threshold value 1: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
189	Total brightness threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
190	Total brightness threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
192	Total brightness threshold value 2: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
193	Total brightness threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
194	Total brightness threshold value 2: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
195	Total brightness threshold value 2: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
196	Total brightness threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
197	Total brightness threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
199	Total brightness threshold value 3: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
200	Total brightness threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
201	Total brightness threshold value 3: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
202	Total brightness threshold value 3: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
203	Total brightness threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
204	Total brightness threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
206	Total brightness threshold value 4: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
207	Total brightness threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
208	Total brightness threshold value 4: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
209	Total brightness threshold value 4: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
210	Total brightness threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
211	Total brightness threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
213	Twilight brightness threshold value 1: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
214	Twilight brightness threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
215	Twilight brightness threshold 1: delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
216	Twilight brightness threshold 1: delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
217	Twilight brightness threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
218	Twilight brightness threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
220	Twilight brightness threshold value 2: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
221	Twilight brightness threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
222	Twilight brightness threshold 2: delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
223	Twilight brightness threshold 2: delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
224	Twilight brightness threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
225	Twilight brightness threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
227	Twilight brightness threshold value 3: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
228	Twilight brightness threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
229	Twilight brightness threshold 3: delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
230	Twilight brightness threshold 3: delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod- Sec	2 bytes
231	Twilight brightness threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
232	Twilight brightness threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
234	Twilight brightness threshold value 4: Absolute value	Input/ Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
235	Twilight brightness threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
236	Twilight brightness threshold 4: delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
237	Twilight brightness threshold 4: delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
238	Twilight brightness threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
239	Twilight brightness threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
251	Night: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
252	Night: Switching delay on night	Input	-WC-	[7,005] DPT_TimePeriodSec	2 bytes
253	Night: Switching delay on day	Input	-WC-	[7,005] DPT_TimePeriodSec	2 bytes
261	Sun position: Azimuth	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
262	Sun position: Elevation	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
263	Sun position: Azimuth	Output	R-CT	[9] 9.xxx	2 bytes
264	Sun position: Elevation	Output	R-CT	[9] 9.xxx	2 bytes
271	Wind sensor: Malfunction	Output	R-CT	[1.1] DPT_Switch	1 bit
272	Wind sensor: Measurement [m/s]	Output	R-CT	[9.5] DPT_Value_Wsp	2 bytes
273	Wind sensor: Measurement [Beaufort]	Output	R-CT	[20.014] DPT_Beaufort_Wind_Force_Scale	1 byte
274	Wind sensor: Max. query measurement	Input	-WC-	[1.017] DPT_Trigger	1 bit
275	Wind sensor: Maximum measurement [m/s]	Output	R-CT	[9.5] DPT_Value_Wsp	2 bytes
276	Wind sensor: Maximum measurement [Beaufort]	Output	R-CT	[20.014] DPT_Beaufort_Wind_Force_Scale	1 byte
277	Wind sensor: Max. reset measurement	Input	-WC-	[1.017] DPT_Trigger	1 bit
281	Wind threshold value 1: Absolute value	Input/Output	RWCT	[9.5] DPT_Value_Wsp	2 bytes
282	Wind threshold value 1: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
283	Wind threshold value 1: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
284	Wind threshold value 1: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
285	Wind threshold value 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
286	Wind threshold value 1: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
287	Wind threshold value 2: Absolute value	Input/Output	RWCT	[9.5] DPT_Value_Wsp	2 bytes
288	Wind threshold value 2: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
289	Wind threshold value 2: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes

No.	Text	Function	Flags	DPT type	Size
290	Wind threshold value 2: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
291	Wind threshold value 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
292	Wind threshold value 2: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
293	Wind threshold value 3: Absolute value	Input/Output	RWCT	[9.5] DPT_Value_Wsp	2 bytes
294	Wind threshold value 3: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
295	Wind threshold value 3: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
296	Wind threshold value 3: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
297	Wind threshold value 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
298	Wind threshold value 3: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
299	Wind threshold value 4: Absolute value	Input/Output	RWCT	[9.5] DPT_Value_Wsp	2 bytes
300	Wind threshold value 4: (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
301	Wind threshold value 4: Delay from 0 to 1	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
302	Wind threshold value 4: Delay from 1 to 0	Input	-WC-	[7.5] DPT_TimePeriod-Sec	2 bytes
303	Wind threshold value 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
304	Wind threshold value 4: Switching output block	Input	-WC-	[1.1] DPT_Switch	1 bit
515	Summer Compensation: Outdoor temperature	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
516	Summer Compensation: Target value	Output	R-CT	[9.1] DPT_Value_Temp	2 bytes
517	Summer Compensation: Block (1 = Blocking)	Input	-WC-	[1.1] DPT_Switch	1 bit
539	Façade Wind measurement 1 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
540	Façade Wind measurement 2 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
541	Façade Wind measurement 3 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
542	Façade Wind measurement 4 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
543	Façade Wind measurement 5 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
544	Façade Wind measurement 6 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
545	Façade Wind measurement 7 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
546	Façade Wind measurement 8 in m/s	Input	-SKÜ	[9.5] DPT_Value_Wsp	2 bytes
547	Façade Wind automation blocking duration in min.	Input/Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
548	Façade Wind automation blocking duration in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
549	Façade Rain (1: Rain 0: no rain)	Input	-SKÜ	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
550	Façade Rain automation Delay in minutes	Input/Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
551	Façade Rain automation Delay in minutes (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
552	Façade Brightness in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
553	Façade Twilight threshold value in kLux	Input/Output	RWCT	[9.4] DPT_Value_Lux	2 bytes
554	Façade Twilight threshold value in Lux (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
555	Façade Outside temperature (°C)	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
556	Façade Heat protection threshold value in °C	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
557	Façade Frost alarm threshold value in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
558	Façade Frost alarm start temperature in °C	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
559	Façade Frost alarm start temperature in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
560	Façade Frost alarm start delay in hours	Input/Output	RWCT	[7.006] DPT_TimePeriodHrs	2 bytes
561	Façade Frost alarm start temperature in hours (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
562	Façade Frost alarm stop temperature in °C	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
563	Façade Frost alarm stop temperature in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
564	Façade Frost alarm stop delay in hours	Input/Output	RWCT	[7.006] DPT_TimePeriodHrs	2 bytes
565	Façade Frost alarm stop delay in hours (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
566	Façade Pyranometer in W/m ²	Input	-SKÜ	[9.022]DPT_PowerDensity	2 bytes
567	Façade Pyranometer in W/m ²	Input	-SKÜ	[14.5] DPT_Value_Amplitude	4 bytes
568	Façade X channel status output (1: activate)	Input	LSK-	[1.1] DPT_Switch	1 bit
569	Façade X channel name	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
570	Façade X channel (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
571	Façade X channel state text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
572	Façade X channel status bit text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
573	Façade X channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
574	Façade X channel delay	Output	R-CT	[7.005] DPT_TimePeriodSec	2 bytes
575	Façade X channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
576	Façade Wind simulation in m/s	Input	LSK-	[9.5] DPT_Value_Wsp	2 bytes
577	Façade Wind extension blocking simulation (1: active)	Input	LSK-	[1.1] DPT_Switch	1 bit
578	Façade Wind alarm simulation (1: active)	Input	LSK-	[1.1] DPT_Switch	1 bit
579	Façade Rain simulation (1: active)	Input	LSK-	[1.1] DPT_Switch	1 bit
580	Façade External temperature in °C simulation	Input	LSK-	[9.1] DPT_Value_Temp	2 bytes
581	Façade Internal temperature in °C simulation	Input	LSK-	[9.1] DPT_Value_Temp	2 bytes
582	Façade Brightness in Lux simulation	Input	LSK-	[9.4] DPT_Value_Lux	2 bytes
583	Façade Sun intensity simulation in watts/m ²	Input	LSK-	[9.022]DPT_PowerDensity	2 bytes
584	Façade Date simulation	Input	LSK-	[11.1] DPT_Date	3 bytes
585	Façade Time simulation	Input	LSK-	[10.1] DPT_TimeOfDay	3 bytes
586	Façade Sun direction simulation in °, with date & time	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
587	Façade Sun height simulation in °, with date & time	Output	R-CT	[14.7] DPT_Value_AngleDeg	4 bytes
588	Façade Sun direction simulation in °	Input	LSK-	[14.7] DPT_Value_AngleDeg	4 bytes
589	Façade Sun height simulation in °	Input	LSK-	[14.7] DPT_Value_AngleDeg	4 bytes
590	Façade Reset simulation (1: reset)	Input	-WC-	[1.015]DPT_Reset	1 bit
591	Façade Sun angle mode simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
592	Façade 1 simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
593	Façade 1 block	Input	LSK-	[1.1] DPT_Switch	1 bit
594	Façade 1 safety (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
595	Façade 1 wind extension block (1: On 0: Off)	Input	-WC-	[1.1] DPT_Switch	1 bit
596	Façade 1 wind extension block threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
597	Façade 1 wind extension block threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
598	Façade 1 wind extension block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
599	Façade 1 wind alarm (1: On 0: Off)	Input	-WC-	[1.1] DPT_Switch	1 bit
600	Façade 1 wind alarm threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
601	Façade 1 wind alarm threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
602	Façade 1 wind alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
603	Façade 1 frost alarm status (1: On 0: Off)	Output	RWCT	[1.1] DPT_Switch	1 bit
604	Façade 1 rain automation release/block	Input	LSK-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
605	Façade 1 rain alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
606	Façade 1 timed opening release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
607	Façade 1 timed opening status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
608	Façade 1 external temperature Block- ing release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
609	Façade 1 external temperature Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
610	Façade 1 external temperature Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
611	Façade 1 external temperature Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
612	Façade 1 timed closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
613	Façade 1 timed closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
614	Façade 1 night closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
615	Façade 1 night closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
616	Façade 1 heating protection release/ block	Input	LSK-	[1.1] DPT_Switch	1 bit
617	Façade 1 heating protection status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
618	Façade 1 pyranometer release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
619	Façade 1 pyranometer in W/m ²	Input/ Output	RWCT	[9.022]DPT_Pow- erDensity	2 bytes
620	Façade 1 pyranometer in W/m ² (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
621	Façade 1 pyranometer status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
622	Façade 1 internal temperature in °C	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
623	Façade 1 internal temperature block release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
624	Façade 1 indoor temp. Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
625	Façade 1 indoor temp. Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
626	Façade 1 indoor temp. Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
627	Façade 1 sun automation Release/ block	Input	LSK-	[1.1] DPT_Switch	1 bit
628	Façade 1 sun automation Azimuth from (in °)	Input	RWCT	[14.7] DPT_Value_An- gleDeg	4 bytes
629	Façade 1 sun automation Azimuth from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
630	Façade 1 sun automation Azimuth up to (in °)	Input	RWCT	[14.7] DPT_Value_An- gleDeg	4 bytes

No.	Text	Function	Flags	DPT type	Size
631	Façade 1 sun automation Azimuth up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
632	Façade 1 sun automation Elevation from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
633	Façade 1 sun automation Elevation from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
634	Façade 1 sun automation Elevation up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
635	Façade 1 sun automation Elevation up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
636	Façade 1 sun automation AziEle status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
637	Façade 1 sun automation Brightness measurement in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
638	Façade 1 sun automation Brightness threshold value in Lux	Input	RWCT	[9.4] DPT_Value_Lux	2 bytes
639	Façade 1 sun automation Brightness threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
640	Façade 1 sun automation Brightness Short status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
641	Façade 1 sun automation Brightness Long status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
642	Façade 1 extension delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
643	Façade 1 extension delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
644	Façade 1 short delay in seconds	Input/ Output	RWCT	[7.005] DPT_TimePeriodSec	2 bytes
645	Façade 1 short delay in seconds (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
646	Façade 1 retraction delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
647	Façade 1 retraction delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
648	Façade 1 movement position	Output	R-CT	[5.1] DPT_Scaling	1 byte
649	Façade 1 slat position	Output	R-CT	[5.1] DPT_Scaling	1 byte
650	Façade 1 channel status output (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
651	Façade 1 channel state text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
652	Façade 1 channel status bit text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
653	Façade 1 channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
654	Façade 1 channel delay	Output	R-CT	[7.005] DPT_TimePeriodSec	2 bytes
655	Façade 1 channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
656	Façade 2 simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
657	Façade 2 block	Input	LSK-	[1.1] DPT_Switch	1 bit
658	Façade 2 safety (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
659	Façade 2 wind extension block (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
660	Façade 2 wind extension block threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
661	Façade 2 wind extension block threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
662	Façade 2 wind extension block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
663	Façade 2 wind alarm (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
664	Façade 2 wind alarm threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
665	Façade 2 wind alarm threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
666	Façade 2 wind alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
667	Façade 2 frost alarm status (1: On 0: Off)	Output	RWCT	[1.1] DPT_Switch	1 bit
668	Façade 2 rain automation release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
669	Façade 2 rain alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
670	Façade 2 timed opening release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
671	Façade 2 timed opening status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
672	Façade 2 external temperature Blocking release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
673	Façade 2 external temperature Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
674	Façade 2 external temperature Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
675	Façade 2 external temperature Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
676	Façade 2 timed closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
677	Façade 2 timed closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
678	Façade 2 night closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
679	Façade 2 night closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
680	Façade 2 heating protection release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
681	Façade 2 heating protection status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
682	Façade 2 pyranometer release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
683	Façade 2 pyranometer in W/m ²	Input/ Output	RWCT	[9.022]DPT_PowerDensity	2 bytes
684	Façade 2 pyranometer in W/m ² (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
685	Façade 2 pyranometer status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
686	Façade 2 internal temperature in °C	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
687	Façade 2 internal temperature block release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
688	Façade 2 indoor temp. Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
689	Façade 2 indoor temp. Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
690	Façade 2 indoor temp. Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
691	Façade 2 sun automation Release/ block	Input	LSK-	[1.1] DPT_Switch	1 bit
692	Façade 2 sun automation Azimuth from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
693	Façade 2 sun automation Azimuth from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
694	Façade 2 sun automation Azimuth up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
695	Façade 2 sun automation Azimuth up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
696	Façade 2 sun automation Elevation from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
697	Façade 2 sun automation Elevation from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
698	Façade 2 sun automation Elevation up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
699	Façade 2 sun automation Elevation up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
700	Façade 2 sun automation AziEle status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
701	Façade 2 sun automation Brightness measurement in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
702	Façade 2 sun automation Brightness threshold value in Lux	Input	RWCT	[9.4] DPT_Value_Lux	2 bytes
703	Façade 2 sun automation Brightness threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
704	Façade 2 sun automation Brightness Short status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
705	Façade 2 sun automation Brightness Long status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
706	Façade 2 extension delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
707	Façade 2 extension delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
708	Façade 2 short delay in seconds	Input/ Output	RWCT	[7.005] DPT_TimePeriodSec	2 bytes
709	Façade 2 short delay in seconds (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
710	Façade 2 retraction delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
711	Façade 2 retraction delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
712	Façade 2 movement position	Output	R-CT	[5.1] DPT_Scaling	1 byte
713	Façade 2 slat position	Output	R-CT	[5.1] DPT_Scaling	1 byte
714	Façade 2 channel status output (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
715	Façade 2 channel state text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
716	Façade 2 channel status bit text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
717	Façade 2 channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
718	Façade 2 channel delay	Output	R-CT	[7.005] DPT_TimePeriodSec	2 bytes
719	Façade 2 channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
720	Façade 3 simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
721	Façade 3 block	Input	LSK-	[1.1] DPT_Switch	1 bit
722	Façade 3 safety (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
723	Façade 3 wind extension block (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
724	Façade 3 wind extension block threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
725	Façade 3 wind extension block threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
726	Façade 3 wind extension block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
727	Façade 3 wind alarm (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
728	Façade 3 wind alarm threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
729	Façade 3 wind alarm threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
730	Façade 3 wind alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
731	Façade 3 frost alarm status (1: On 0: Off)	Output	RWCT	[1.1] DPT_Switch	1 bit
732	Façade 3 rain automation release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
733	Façade 3 rain alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
734	Façade 3 timed opening release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
735	Façade 3 timed opening status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
736	Façade 3 external temperature Blocking release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
737	Façade 3 external temperature Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes

No.	Text	Function	Flags	DPT type	Size
738	Façade 3 external temperature Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
739	Façade 3 external temperature Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
740	Façade 3 timed closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
741	Façade 3 timed closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
742	Façade 3 night closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
743	Façade 3 night closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
744	Façade 3 heating protection release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
745	Façade 3 heating protection status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
746	Façade 3 pyranometer release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
747	Façade 3 pyranometer in W/m ²	Input/ Output	RWCT	[9.022]DPT_PowerDensity	2 bytes
748	Façade 3 pyranometer in W/m ² (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
749	Façade 3 pyranometer status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
750	Façade 3 internal temperature in °C	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
751	Façade 3 internal temperature block release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
752	Façade 3 indoor temp. Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
753	Façade 3 indoor temp. Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
754	Façade 3 indoor temp. Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
755	Façade 3 sun automation Release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
756	Façade 3 sun automation Azimuth from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
757	Façade 3 sun automation Azimuth from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
758	Façade 3 sun automation Azimuth up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
759	Façade 3 sun automation Azimuth up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
760	Façade 3 sun automation Elevation from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
761	Façade 3 sun automation Elevation from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
762	Façade 3 sun automation Elevation up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
763	Façade 3 sun automation Elevation up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
764	Façade 3 sun automation AziEle status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
765	Façade 3 sun automation Brightness measurement in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
766	Façade 3 sun automation Brightness threshold value in Lux	Input	RWCT	[9.4] DPT_Value_Lux	2 bytes
767	Façade 3 sun automation Brightness threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
768	Façade 3 sun automation Brightness Short status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
769	Façade 3 sun automation Brightness Long status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
770	Façade 3 extension delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
771	Façade 3 extension delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
772	Façade 3 short delay in seconds	Input/ Output	RWCT	[7.005] DPT_TimePeriodSec	2 bytes
773	Façade 3 short delay in seconds (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
774	Façade 3 retraction delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
775	Façade 3 retraction delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
776	Façade 3 movement position	Output	R-CT	[5.1] DPT_Scaling	1 byte
777	Façade 3 slat position	Output	R-CT	[5.1] DPT_Scaling	1 byte
778	Façade 3 channel status output (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
779	Façade 3 channel state text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
780	Façade 3 channel status bit text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
781	Façade 3 channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
782	Façade 3 channel delay	Output	R-CT	[7.005] DPT_TimePeriodSec	2 bytes
783	Façade 3 channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
784	Façade 4 simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
785	Façade 4 block	Input	LSK-	[1.1] DPT_Switch	1 bit
786	Façade 4 safety (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
787	Façade 4 wind extension block (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
788	Façade 4 wind extension block threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
789	Façade 4 wind extension block threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
790	Façade 4 wind extension block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
791	Façade 4 wind alarm (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
792	Façade 4 wind alarm threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
793	Façade 4 wind alarm threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
794	Façade 4 wind alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
795	Façade 4 frost alarm status (1: On 0: Off)	Output	RWCT	[1.1] DPT_Switch	1 bit
796	Façade 4 rain automation release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
797	Façade 4 rain alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
798	Façade 4 timed opening release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
799	Façade 4 timed opening status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
800	Façade 4 external temperature Blocking release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
801	Façade 4 external temperature Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
802	Façade 4 external temperature Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
803	Façade 4 external temperature Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
804	Façade 4 timed closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
805	Façade 4 timed closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
806	Façade 4 night closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
807	Façade 4 night closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
808	Façade 4 heating protection release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
809	Façade 4 heating protection status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
810	Façade 4 pyranometer release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
811	Façade 4 pyranometer in W/m ²	Input/ Output	RWCT	[9.022]DPT_PowerDensity	2 bytes
812	Façade 4 pyranometer in W/m ² (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
813	Façade 4 pyranometer status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
814	Façade 4 internal temperature in °C	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
815	Façade 4 internal temperature block release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
816	Façade 4 indoor temp. Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
817	Façade 4 indoor temp. Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
818	Façade 4 indoor temp. Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
819	Façade 4 sun automation Release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
820	Façade 4 sun automation Azimuth from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
821	Façade 4 sun automation Azimuth from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
822	Façade 4 sun automation Azimuth up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
823	Façade 4 sun automation Azimuth up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
824	Façade 4 sun automation Elevation from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
825	Façade 4 sun automation Elevation from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
826	Façade 4 sun automation Elevation up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
827	Façade 4 sun automation Elevation up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
828	Façade 4 sun automation AziEle status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
829	Façade 4 sun automation Brightness measurement in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
830	Façade 4 sun automation Brightness threshold value in Lux	Input	RWCT	[9.4] DPT_Value_Lux	2 bytes
831	Façade 4 sun automation Brightness threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
832	Façade 4 sun automation Brightness Short status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
833	Façade 4 sun automation Brightness Long status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
834	Façade 4 extension delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
835	Façade 4 extension delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
836	Façade 4 short delay in seconds	Input/ Output	RWCT	[7.005] DPT_TimePeriodSec	2 bytes
837	Façade 4 short delay in seconds (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
838	Façade 4 retraction delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
839	Façade 4 retraction delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
840	Façade 4 movement position	Output	R-CT	[5.1] DPT_Scaling	1 byte
841	Façade 4 slat position	Output	R-CT	[5.1] DPT_Scaling	1 byte
842	Façade 4 channel status output (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
843	Façade 4 channel state text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
844	Façade 4 channel status bit text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
845	Façade 4 channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
846	Façade 4 channel delay	Output	R-CT	[7,005] DPT_TimePeriodSec	2 bytes
847	Façade 4 channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
848	Façade 5 simulation (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
849	Façade 5 block	Input	LSK-	[1.1] DPT_Switch	1 bit
850	Façade 5 safety (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
851	Façade 5 wind extension block (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
852	Façade 5 wind extension block threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
853	Façade 5 wind extension block threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
854	Façade 5 wind extension block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
855	Façade 5 wind alarm (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
856	Façade 5 wind alarm threshold value in m/s	Input	RWCT	[9.5] DPT_Value_Wsp	2 bytes
857	Façade 5 wind alarm threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
858	Façade 5 wind alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
859	Façade 5 frost alarm status (1: On 0: Off)	Output	RWCT	[1.1] DPT_Switch	1 bit
860	Façade 5 rain automation release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
861	Façade 5 rain alarm status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
862	Façade 5 timed opening release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
863	Façade 5 timed opening status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
864	Façade 5 external temperature Blocking release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
865	Façade 5 external temperature Block in °C	Input/Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
866	Façade 5 external temperature Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
867	Façade 5 external temperature Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
868	Façade 5 timed closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
869	Façade 5 timed closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
870	Façade 5 night closure release/block	Input	LSK-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
871	Façade 5 night closure status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
872	Façade 5 heating protection release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
873	Façade 5 heating protection status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
874	Façade 5 pyranometer release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
875	Façade 5 pyranometer in W/m ²	Input/ Output	RWCT	[9.022]DPT_PowerDensity	2 bytes
876	Façade 5 pyranometer in W/m ² (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
877	Façade 5 pyranometer status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
878	Façade 5 internal temperature in °C	Input	-SKÜ	[9.1] DPT_Value_Temp	2 bytes
879	Façade 5 internal temperature block release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
880	Façade 5 indoor temp. Block in °C	Input/ Output	RWCT	[9.1] DPT_Value_Temp	2 bytes
881	Façade 5 indoor temp. Block in °C (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
882	Façade 5 indoor temp. Block status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
883	Façade 5 sun automation Release/block	Input	LSK-	[1.1] DPT_Switch	1 bit
884	Façade 5 sun automation Azimuth from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
885	Façade 5 sun automation Azimuth from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
886	Façade 5 sun automation Azimuth up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
887	Façade 5 sun automation Azimuth up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
888	Façade 5 sun automation Elevation from (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
889	Façade 5 sun automation Elevation from (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
890	Façade 5 sun automation Elevation up to (in °)	Input	RWCT	[14.7] DPT_Value_AngleDeg	4 bytes
891	Façade 5 sun automation Elevation up to (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
892	Façade 5 sun automation AziEle status (1: On 0: Off)	Output	R-CT	[1.1] DPT_Switch	1 bit
893	Façade 5 sun automation Brightness measurement in Lux	Input	-SKÜ	[9.4] DPT_Value_Lux	2 bytes
894	Façade 5 sun automation Brightness threshold value in Lux	Input	RWCT	[9.4] DPT_Value_Lux	2 bytes
895	Façade 5 sun automation Brightness threshold value (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
896	Façade 5 sun automation Brightness Short status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
897	Façade 5 sun automation Brightness Long status (1: On)	Output	R-CT	[1.1] DPT_Switch	1 bit
898	Façade 5 extension delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
899	Façade 5 extension delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
900	Façade 5 short delay in seconds	Input/ Output	RWCT	[7.005] DPT_TimePeriodSec	2 bytes
901	Façade 5 short delay in seconds (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
902	Façade 5 retraction delay in min.	Input/ Output	RWCT	[7.006] DPT_TimePeriodMin	2 bytes
903	Façade 5 retraction delay in min. (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
904	Façade 5 movement position	Output	R-CT	[5.1] DPT_Scaling	1 byte
905	Façade 5 slat position	Output	R-CT	[5.1] DPT_Scaling	1 byte
906	Façade 5 channel status output (1: On 0: Off)	Input	LSK-	[1.1] DPT_Switch	1 bit
907	Façade 5 channel state text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
908	Façade 5 channel status bit text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
909	Façade 5 channel status bit state	Output	R-CT	[1.1] DPT_Switch	1 bit
910	Façade 5 channel delay	Output	R-CT	[7,005] DPT_TimePeriodSec	2 bytes
911	Façade 5 channel status bit selection (1:+ 0:-)	Input	-WC-	[1.1] DPT_Switch	1 bit
1141	Computer 1: Input I1	Input	RWCT		4 bytes
1142	Computer 1: Input I2	Input	RWCT		4 bytes
1143	Computer 1: Input I3	Input	RWCT		4 bytes
1144	Computer 1: Output O1	Output	R-CT		4 bytes
1145	Computer 1: Output O2	Output	R-CT		4 bytes
1146	Computer 1: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1147	Computer 1: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1148	Computer 1: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1149	Computer 2: Input I1	Input	RWCT		4 bytes
1150	Computer 2: Input I2	Input	RWCT		4 bytes
1151	Computer 2: Input I3	Input	RWCT		4 bytes
1152	Computer 2: Output O1	Output	R-CT		4 bytes
1153	Computer 2: Output O2	Output	R-CT		4 bytes
1154	Computer 2: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1155	Computer 2: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
1156	Computer 2: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1157	Computer 3: Input I1	Input	RWCT		4 bytes
1158	Computer 3: Input I2	Input	RWCT		4 bytes
1159	Computer 3: Input I3	Input	RWCT		4 bytes
1160	Computer 3: Output O1	Output	R-CT		4 bytes
1161	Computer 3: Output O2	Output	R-CT		4 bytes
1162	Computer 3: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1163	Computer 3: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1164	Computer 3: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1165	Computer 4: Input I1	Input	RWCT		4 bytes
1166	Computer 4: Input I2	Input	RWCT		4 bytes
1167	Computer 4: Input I3	Input	RWCT		4 bytes
1168	Computer 4: Output O1	Output	R-CT		4 bytes
1169	Computer 4: Output O2	Output	R-CT		4 bytes
1170	Computer 4: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1171	Computer 4: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1172	Computer 4: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1173	Computer 5: Input I1	Input	RWCT		4 bytes
1174	Computer 5: Input I2	Input	RWCT		4 bytes
1175	Computer 5: Input I3	Input	RWCT		4 bytes
1176	Computer 5: Output O1	Output	R-CT		4 bytes
1177	Computer 5: Output O2	Output	R-CT		4 bytes
1178	Computer 5: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1179	Computer 5: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1180	Computer 5: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1181	Computer 6: Input I1	Input	RWCT		4 bytes
1182	Computer 6: Input I2	Input	RWCT		4 bytes
1183	Computer 6: Input I3	Input	RWCT		4 bytes
1184	Computer 6: Output O1	Output	R-CT		4 bytes
1185	Computer 6: Output O2	Output	R-CT		4 bytes
1186	Computer 6: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes
1187	Computer 6: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1188	Computer 6: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1189	Computer 7: Input I1	Input	RWCT		4 bytes
1190	Computer 7: Input I2	Input	RWCT		4 bytes
1191	Computer 7: Input I3	Input	RWCT		4 bytes
1192	Computer 7: Output O1	Output	R-CT		4 bytes
1193	Computer 7: Output O2	Output	R-CT		4 bytes
1194	Computer 7: Condition text	Output	R-CT	[16.0] DPT_String_AS-CII	14 bytes

No.	Text	Function	Flags	DPT type	Size
1195	Computer 7: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1196	Computer 7: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1197	Computer 8: Input I1	Input	RWCT		4 bytes
1198	Computer 8: Input I2	Input	RWCT		4 bytes
1199	Computer 8: Input I3	Input	RWCT		4 bytes
1200	Computer 8: Output O1	Output	R-CT		4 bytes
1201	Computer 8: Output O2	Output	R-CT		4 bytes
1202	Computer 8: Condition text	Output	R-CT	[16.0] DPT_String_ASCII	14 bytes
1203	Computer 8: Monitoring status	Output	R-CT	[1.1] DPT_Switch	1 bit
1204	Computer 8: Block (1: block)	Input	-WC-	[1.1] DPT_Switch	1 bit
1211	Weekly timer period 1: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1212	Weekly timer period 1: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1213	Weekly timer period 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1214	Weekly timer period 1: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1215	Weekly timer period 2: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1216	Weekly timer period 2: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1217	Weekly timer period 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1218	Weekly timer period 2: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1219	Weekly timer period 3: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1220	Weekly timer period 3: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1221	Weekly timer period 3: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1222	Weekly timer period 3: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1223	Weekly timer period 4: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1224	Weekly timer period 4: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1225	Weekly timer period 4: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1226	Weekly timer period 4: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1227	Weekly timer period 5: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1228	Weekly timer period 5: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1229	Weekly timer period 5: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1230	Weekly timer period 5: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1231	Weekly timer period 6: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1232	Weekly timer period 6: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1233	Weekly timer period 6: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
1234	Weekly timer period 6: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1235	Weekly timer period 7: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1236	Weekly timer period 7: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1237	Weekly timer period 7: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1238	Weekly timer period 7: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1239	Weekly timer period 8: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1240	Weekly timer period 8: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1241	Weekly timer period 8: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1242	Weekly timer period 8: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1243	Weekly timer period 9: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1244	Weekly timer period 9: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1245	Weekly timer period 9: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1246	Weekly timer period 9: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1247	Weekly timer period 10: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1248	Weekly timer period 10: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1249	Weekly timer period 10: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1250	Weekly timer period 10: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1251	Weekly timer period 11: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1252	Weekly timer period 11: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1253	Weekly timer period 11: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1254	Weekly timer period 11: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1255	Weekly timer period 12: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1256	Weekly timer period 12: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1257	Weekly timer period 12: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1258	Weekly timer period 12: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1259	Weekly timer period 13: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1260	Weekly timer period 13: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes

No.	Text	Function	Flags	DPT type	Size
1261	Weekly timer period 13: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1262	Weekly timer period 13: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1263	Weekly timer period 14: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1264	Weekly timer period 14: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1265	Weekly timer period 14: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1266	Weekly timer period 14: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1267	Weekly timer period 15: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1268	Weekly timer period 15: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1269	Weekly timer period 15: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1270	Weekly timer period 15: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1271	Weekly timer period 16: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1272	Weekly timer period 16: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1273	Weekly timer period 16: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1274	Weekly timer period 16: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1275	Weekly timer period 17: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1276	Weekly timer period 17: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1277	Weekly timer period 17: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1278	Weekly timer period 17: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1279	Weekly timer period 18: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1280	Weekly timer period 18: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1281	Weekly timer period 18: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1282	Weekly timer period 18: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1283	Weekly timer period 19: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1284	Weekly timer period 19: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes

No.	Text	Function	Flags	DPT type	Size
1285	Weekly timer period 19: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1286	Weekly timer period 19: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1287	Weekly timer period 20: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1288	Weekly timer period 20: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1289	Weekly timer period 20: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1290	Weekly timer period 20: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1291	Weekly timer period 21: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1292	Weekly timer period 21: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1293	Weekly timer period 21: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1294	Weekly timer period 21: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1295	Weekly timer period 22: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1296	Weekly timer period 22: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1297	Weekly timer period 22: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1298	Weekly timer period 22: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1299	Weekly timer period 23: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1300	Weekly timer period 23: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1301	Weekly timer period 23: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1302	Weekly timer period 23: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1303	Weekly timer period 24: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1304	Weekly timer period 24: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1305	Weekly timer period 24: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1306	Weekly timer period 24: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1331	Calendar timer period 1: Start date	Input	RWCT	[11.1] DPT_Date	3 bytes
1332	Calendar timer period 1: End date	Input	RWCT	[11.1] DPT_Date	3 bytes
1333	Calendar timer period 1 sequence 1: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes

No.	Text	Function	Flags	DPT type	Size
1334	Calendar timer period 1 sequence 1: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1335	Calendar timer period 1 sequence 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1336	Calendar timer period 1 sequence 1: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1337	Calendar timer period 1 sequence 2: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1338	Calendar timer period 1 sequence 2: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1339	Calendar timer period 1 sequence 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1340	Calendar timer period 1 sequence 2: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1341	Calendar timer period 2: Start date	Input	RWCT	[11.1] DPT_Date	3 bytes
1342	Calendar timer period 2: End date	Input	RWCT	[11.1] DPT_Date	3 bytes
1343	Calendar timer period 2 sequence 1: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1344	Calendar timer period 2 sequence 1: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1345	Calendar timer period 2 sequence 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1346	Calendar timer period 2 sequence 1: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1347	Calendar timer period 2 sequence 2: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1348	Calendar timer period 2 sequence 2: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1349	Calendar timer period 2 sequence 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1350	Calendar timer period 2 sequence 2: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1351	Calendar timer period 3: Start date	Input	RWCT	[11.1] DPT_Date	3 bytes
1352	Calendar timer period 3: End date	Input	RWCT	[11.1] DPT_Date	3 bytes
1353	Calendar timer period 3 sequence 1: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1354	Calendar timer period 3 sequence 1: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1355	Calendar timer period 3 sequence 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1356	Calendar timer period 3 sequence 1: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1357	Calendar timer period 3 sequence 2: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1358	Calendar timer period 3 sequence 2: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1359	Calendar timer period 3 sequence 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit

No.	Text	Function	Flags	DPT type	Size
1360	Calendar timer period 3 sequence 2: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1361	Calendar timer period 4: Start date	Input	RWCT	[11.1] DPT_Date	3 bytes
1362	Calendar timer period 4: End date	Input	RWCT	[11.1] DPT_Date	3 bytes
1363	Calendar timer period 4 sequence 1: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1364	Calendar timer period 4 sequence 1: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1365	Calendar timer period 4 sequence 1: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1366	Calendar timer period 4 sequence 1: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1367	Calendar timer period 4 sequence 2: Switch-on time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1368	Calendar timer period 4 sequence 2: Switch-off time	Input	RWCT	[10.1] DPT_TimeOfDay	3 bytes
1369	Calendar timer period 4 sequence 2: Switching output	Output	R-CT	[1.1] DPT_Switch	1 bit
1370	Calendar timer period 4 sequence 2: 8-bit output	Output	R-CT	[5.10] DPT_Value_1_U-count	1 byte
1391	Logic input 1	Input	-WC-	[1.2] DPT_Bool	1 bit
1392	Logic input 2	Input	-WC-	[1.2] DPT_Bool	1 bit
1393	Logic input 3	Input	-WC-	[1.2] DPT_Bool	1 bit
1394	Logic input 4	Input	-WC-	[1.2] DPT_Bool	1 bit
1395	Logic input 5	Input	-WC-	[1.2] DPT_Bool	1 bit
1396	Logic input 6	Input	-WC-	[1.2] DPT_Bool	1 bit
1397	Logic input 7	Input	-WC-	[1.2] DPT_Bool	1 bit
1398	Logic input 8	Input	-WC-	[1.2] DPT_Bool	1 bit
1399	Logic input 9	Input	-WC-	[1.2] DPT_Bool	1 bit
1400	Logic input 10	Input	-WC-	[1.2] DPT_Bool	1 bit
1401	Logic input 11	Input	-WC-	[1.2] DPT_Bool	1 bit
1402	Logic input 12	Input	-WC-	[1.2] DPT_Bool	1 bit
1403	Logic input 13	Input	-WC-	[1.2] DPT_Bool	1 bit
1404	Logic input 14	Input	-WC-	[1.2] DPT_Bool	1 bit
1405	Logic input 15	Input	-WC-	[1.2] DPT_Bool	1 bit
1406	Logic input 16	Input	-WC-	[1.2] DPT_Bool	1 bit
1411	AND logic 1: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1412	AND logic 1: 8-bit output A	Output	R-CT		1 byte
1413	AND logic 1: 8-bit output B	Output	R-CT		1 byte
1414	AND logic 1: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1415	AND logic 2: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1416	AND logic 2: 8-bit output A	Output	R-CT		1 byte
1417	AND logic 2: 8-bit output B	Output	R-CT		1 byte
1418	AND logic 2: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1419	AND logic 3: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit

No.	Text	Function	Flags	DPT type	Size
1420	AND logic 3: 8-bit output A	Output	R-CT		1 byte
1421	AND logic 3: 8-bit output B	Output	R-CT		1 byte
1422	AND logic 3: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1423	AND logic 4: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1424	AND logic 4: 8-bit output A	Output	R-CT		1 byte
1425	AND logic 4: 8-bit output B	Output	R-CT		1 byte
1426	AND logic 4: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1427	AND logic 5: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1428	AND logic 5: 8-bit output A	Output	R-CT		1 byte
1429	AND logic 5: 8-bit output B	Output	R-CT		1 byte
1430	AND logic 5: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1431	AND logic 6: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1432	AND logic 6: 8-bit output A	Output	R-CT		1 byte
1433	AND logic 6: 8-bit output B	Output	R-CT		1 byte
1434	AND logic 6: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1435	AND logic 7: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1436	AND logic 7: 8-bit output A	Output	R-CT		1 byte
1437	AND logic 7: 8-bit output B	Output	R-CT		1 byte
1438	AND logic 7: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1439	AND logic 8: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1440	AND logic 8: 8-bit output A	Output	R-CT		1 byte
1441	AND logic 8: 8-bit output B	Output	R-CT		1 byte
1442	AND logic 8: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1443	OR logic 1: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1444	OR logic 1: 8-bit output A	Output	R-CT		1 byte
1445	OR logic 1: 8-bit output B	Output	R-CT		1 byte
1446	OR logic 1: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1447	OR logic 2: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1448	OR logic 2: 8-bit output A	Output	R-CT		1 byte
1449	OR logic 2: 8-bit output B	Output	R-CT		1 byte
1450	OR logic 2: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1451	OR logic 3: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1452	OR logic 3: 8-bit output A	Output	R-CT		1 byte
1453	OR logic 3: 8-bit output B	Output	R-CT		1 byte
1454	OR logic 3: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1455	OR logic 4: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1456	OR logic 4: 8-bit output A	Output	R-CT		1 byte
1457	OR logic 4: 8-bit output B	Output	R-CT		1 byte
1458	OR logic 4: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1459	OR logic 5: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1460	OR logic 5: 8-bit output A	Output	R-CT		1 byte
1461	OR logic 5: 8-bit output B	Output	R-CT		1 byte

No.	Text	Function	Flags	DPT type	Size
1462	OR logic 5: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1463	OR logic 6: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1464	OR logic 6: 8-bit output A	Output	R-CT		1 byte
1465	OR logic 6: 8-bit output B	Output	R-CT		1 byte
1466	OR logic 6: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1467	OR logic 7: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1468	OR logic 7: 8-bit output A	Output	R-CT		1 byte
1469	OR logic 7: 8-bit output B	Output	R-CT		1 byte
1470	OR logic 7: Block	Input	-WC-	[1.1] DPT_Switch	1 bit
1471	OR logic 8: 1-bit switching output	Output	R-CT	[1.2] DPT_Bool	1 bit
1472	OR logic 8: 8-bit output A	Output	R-CT		1 byte
1473	OR logic 8: 8-bit output B	Output	R-CT		1 byte
1474	OR logic 8: Block	Input	-WC-	[1.1] DPT_Switch	1 bit

6. Parameter setting

6.0.1. Behaviour on power failure/power restoration

Behaviour on bus or auxiliary power failure

The device sends nothing.

Behaviour on bus or auxiliary voltage restoration and following programming or reset

The device sends all measurement values as well as switching and status outputs according to their send pattern set in the parameters with the delays established in the "General settings" parameter block. The "Software version" communications object is sent once after 5 seconds.

6.0.2. Storage of threshold values

For threshold values that are specified via a communication object, a starting value must be entered for the first commissioning. It is valid until the first communication of a new threshold value.

After this, a threshold value once set per parameter or via a communication object is retained until a new threshold value is sent via a communication object. The last threshold value set by communication object is saved in the device, so that it is retained during a power outage and is available once again when power is restored.

6.0.3. Malfunction objects

Malfunction objects are sent after every reset and, additionally, after changes (i.e. at the beginning and end of a malfunction).

6.1. General settings

Set basic characteristics of data transfer. A different transmission delay prevents an overload of the bus shortly after the reset.

Transmission delay after reset/restoration of bus for:	
Measured values	<u>5</u> ... 300 seconds
Threshold values and switching outputs	<u>5</u> ... 300 seconds
Façade objects	<u>5</u> ... 300 seconds
Computer objects	<u>5</u> ... 300 seconds
time switch objects	<u>5</u> ... 300 seconds
Logic objects	<u>5</u> ... 300 seconds
Maximum telegram quota	1 • 2 • 5 • <u>10</u> • 20 • 50 Telegrams per sec.

6.2. GPS

Set whether the time and date are to be sent as separate objects or as one common object. Specify whether the time and date are to be set by the GPS signal or objects.

If time and date are **set by the GPS-Signal**, the data is available as soon as a valid GPS signal is received.

If time and date are **set by two objects**, then only a maximum of 10 seconds may elapse between receiving the date and receiving the time. Furthermore, a change of date may not occur between receiving both objects. The objects must be received by the device on the same day.

The device 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 object has been received for some time. The internal clock can show a time drift of up to ±6 seconds per day.

Object type date and time	<ul style="list-style-type: none"> • <u>two separate objects</u> • a common object
Date and time will be set by	<ul style="list-style-type: none"> • <u>GPS signal and not sent</u> • GPS signal and sent periodically • GPS signal and sent on request • GPS signal and sent on request + periodically • object(s) and not sent
Send cycle (if sent periodically)	5 s ... 2 h; <u>1 min</u>

Set what happens in the event of a GPS malfunction. Please note, that after return of auxiliary voltage, it can take up to 10 minutes before the GPS signal is received.

If there is no reception, GPS fault is ... recognised after the last reception	20 min • <u>30 min</u> • 1 h • 1.5 h • 2 h
--	--

GPS fault object sends (1: malfunction 0: no malfunction)	<ul style="list-style-type: none"> • <u>never</u> • on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

6.3. Location

The location data is required in order to be able to calculate the **position of the sun** with the help of the date and time.

The **location** is received via GPS or entered manually (selection of the nearest town or by entering coordinates). Also when using the GPS signal coordinates can be entered manually for the initial commissioning. This data is used as long as no GPS reception exists. For this you select the option "Input (only valid until the first GPS reception)".

Location is determined by	<ul style="list-style-type: none"> • input • input (only valid until the first GPS reception) • <u>GPS reception</u> 		
Location input using (if input selected)	<ul style="list-style-type: none"> • <u>Town</u> • <u>Coordinates</u> 		
Country (if input by town is selected)	<table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Belgium • Denmark • <u>Germany</u> • France • Great Britain • Italy </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Liechtenstein • Luxembourg • Netherlands • Austria • Switzerland • USA </td> </tr> </table>	<ul style="list-style-type: none"> • Belgium • Denmark • <u>Germany</u> • France • Great Britain • Italy 	<ul style="list-style-type: none"> • Liechtenstein • Luxembourg • Netherlands • Austria • Switzerland • USA
<ul style="list-style-type: none"> • Belgium • Denmark • <u>Germany</u> • France • Great Britain • Italy 	<ul style="list-style-type: none"> • Liechtenstein • Luxembourg • Netherlands • Austria • Switzerland • USA 		
Town (if input by town is selected)	<ul style="list-style-type: none"> 6 towns in Belgium 1 town in Denmark 48 towns in Germany; <u>Stuttgart</u> 23 towns in France 4 towns in Great Britain 10 towns in Italy 1 town in Liechtenstein 1 town in Luxembourg 2 towns in the Netherlands 4 towns in Austria 4 towns in Switzerland 2 towns in the USA 		
E. longitude [degrees, -180...+180] (if input by coordinates is selected)	<u>0</u> [negative values mean "western longitude"]		

E. longitude [minutes, -59...+59] <i>(if input by coordinates is selected)</i>	<u>0</u> [negative values mean "western longitude"]
Northern latitude [Degrees, -90...+90] <i>(if input by coordinates is selected)</i>	0 [negative values mean "southern latitude"]
Northern latitude [minutes, -59...+59] <i>(if input by coordinates is selected)</i>	<u>0</u> [negative values mean "southern latitude"]

The location **height** is received by GPS or entered manually. When using the GPS signal a height can be entered manually for the initial commissioning. This data is used as long as no GPS reception exists. For this you select the option "Input (only valid until the first GPS reception)".

Height is determined by	<ul style="list-style-type: none"> • Input • Input (only valid until the first GPS reception) • <u>GPS reception</u>
Height above sea level in metres	-1000 ... 10000; <u>200</u>

In order to be able to output the **local time**, the time zone (difference to world time (Coordinated Universal Time)) and the summer time rules must be defined. Specify the hours and minutes after winter time (standard time).

Time zone (relative to GMT):	
Prefix	<ul style="list-style-type: none"> • <u>positive (+)</u> • negative (-)
Hours	0 ... 13; <u>1</u>
Minutes	0 ... 59; <u>0</u>
Summertime rule	<ul style="list-style-type: none"> • <u>Europe</u> • USA • user-defined • none
All the following times are to be entered as winter time = standard time	
Start of Summer Time:	
on	<ul style="list-style-type: none"> • Monday ... <u>Sunday</u> • Date
From (day) <i>(for Europe or USA summer time rules)</i> (Day) <i>(For user defined summer time rules)</i>	1 ... 31; <u>25</u>
(Month)	1 ... 12; <u>3</u>
(Hour)	0 ... 23; <u>2</u>
(minutes)	<u>0</u> ... 59
End of Summer Time:	
on	<ul style="list-style-type: none"> • Monday ... <u>Sunday</u> • Date

From (day) <i>(for Europe or USA summer time rules)</i> (Day) <i>(For user defined summer time rules)</i>	1 ... 31; <u>25</u>
(Month)	1 ... 12; <u>10</u>
(hour)	0 ... 23; <u>2</u>
(minutes)	<u>0</u> ... 59
Time shift:	
hours	-12 ... 12; <u>1</u>
minutes	<u>0</u> ... 59

The standard coordinates can be transmitted from the device to the bus and thus be used in other applications, no matter whether they have been received via GPS or specified manually.

Send coordinates	<ul style="list-style-type: none"> • <u>never</u> • periodically • on change • on change and periodically
on change of	0.5° • 1° • <u>2°</u> • 5° • 10°
Send cycle	5 s ... 2 h; <u>5 min</u>

6.4. Rain

Activate the rain sensor in order to use objects and switch outputs.

Use rain sensor	<u>No</u> • Yes
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Set, in which cases delay times received are to be kept per object. The parameter is only taken into consideration if the setting by object is activated further down. 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 call (setting via objects is ignored).

Maintain the delays received via communication objects	<ul style="list-style-type: none"> • never • after power restoration • after power restoration and programming
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Select whether the special rain output is to be used with fixed switching delay. This switching output has no delay on rain recognition and 5 minutes delay after it is dry again.

Use rain output with fixed switching delay	<u>No</u> • Yes
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Set the delay times. If the delays are defined using objects, then the times set here are only valid up to the first call.

Delays can be set via objects (in seconds)	<u>No</u> • Yes
Delay on rain	<u>none</u> • 1 s ... • 2 h
Delay on no rain (after drying of the sensor)	<u>5 min</u> • 1 h... • 2 h

Define the send pattern for the rain switch output and specify the object value for the event of rain.

Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to rain • on change to no rain • on change and periodically • on change to rain and periodically • on change to no rain and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>
Object value(s) with rain	0 • <u>1</u>

6.5. Temperature measurement value

First of all set whether the temperature sensor malfunction object is to be used and correct, if necessary, the output of the measurement value by specifying an offset (e.g. in order to compensate malfunction sources).

Use malfunction object	<u>No</u> • Yes
Offset in 0.1°C	-50... 50; <u>0</u>

Then set the mixed value calculation if desired.

Use external reading	<u>No</u> • Yes
Ext. Reading proportion of the total reading (if external reading is to be used)	5% • 10% • 15% • ... • <u>50%</u> • ... • 95% • 100%
All following settings refer to the total measured value	

Specify the send pattern for the total measured value.

Send pattern	<ul style="list-style-type: none"> • <u>never</u> • periodically • on change • on change and periodically
on change of (if sent on change)	0.1°C • 0.2°C • 0.5°C • <u>1.0°C</u> • 2.0°C • 5.0°C
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

6.6. Temperature threshold values

Activate the temperature threshold values required (maximum four) The menus for the further setting of the threshold values are then displayed.

Threshold value 1	<u>No</u> • Yes
Threshold value...	<u>No</u> • Yes
Threshold value 4	<u>No</u> • Yes

6.6.1. Temperature threshold value 1-4

Threshold value

Set, in which cases threshold values and delay times received are to be kept per object. The parameter is only taken into consideration if the specification/ setting by object is activated further down. 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 call (setting via objects is ignored).

Maintain the threshold values and delays received via communication objects	<ul style="list-style-type: none"> • never • after power supply restoration • after power supply restoration and programming
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Select whether the threshold value is to be specified per parameter or via a communication object.

Threshold value setpoint using	<u>Parameter</u> • Communications object
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When the **threshold value per parameter** is specified, then the value is set.

Threshold value in 0.1°C	-300 ... 800; <u>200</u>
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When the **threshold value per communication object** is specified, the starting value, object value limit and type of change to the threshold value are then set.

Start threshold value in 0.1°C valid until first call	-300 ... 800; <u>200</u>
Object value limit (min) in 0.1°C	<u>-300</u> ... 800
Object value limit (max) in 0.1°C	-300 ... <u>800</u>
Type of threshold change	<u>Absolute value</u> • Increase/decrease
Step size (upon increase/decrease change)	<u>0.1°C</u> • 0.2°C • 0.3°C • 0.4°C • 0.5°C • 1°C • 2°C • 3°C • 4°C • 5°C

With both of the methods for specifying the threshold values the hysteresis is set.

Hysteresis setting	in % • <u>absolute</u>
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Hysteresis in % of the threshold value (for setting in %)	0 ... 50; <u>20</u>
Hysteresis in 0.1°C (for absolute setting)	0 ... 1100; <u>50</u>

Switching output

Define which value the output transmits if the threshold value is exceeded or undercut. Set the delay for the switching and in which cases the switch output transmits.

When the following conditions apply, the output is (LV = Threshold value)	<ul style="list-style-type: none"> • <u>GW above = 1</u> <u>GW - Hyst. below = 0</u> • <u>GW above = 0</u> <u>GW - Hyst. below = 1</u> • <u>GW below = 1</u> <u>GW + Hyst. above = 0</u> • <u>GW below = 0</u> <u>GW + Hyst. above = 1</u>
Delays can be set via objects (in seconds)	<u>No</u> • Yes
Delay from 0 to 1	<u>none</u> • 1 s ... 2 h
Delay from 1 to 0	<u>none</u> • 1 s ... 2 h
Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle (if sent periodically)	<u>5 s</u> ... 2 h

Block

If necessary, activate the switching output block and set what a 1 or 0 at the block entry means and what happens in the event of a block.

Use switching output block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block</u> <u>At value 0: release</u> • <u>At value 0: block</u> <u>At value 1: release</u>
Blocking object value before first call	<u>0</u> • 1
Action when locking	<ul style="list-style-type: none"> • <u>Do not send message</u> • send 0 • send 1
Action upon release (with 2 seconds 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

6.7. Frost alarm

If necessary, activate the parameter frost alarm. The parameter is independent of the frost alarm used for the façade controller. The internal façade frost alarm is set separately (see *Façade setting > Frostalarm*, page 90)

Use frost alarm	<u>No</u> • Yes
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Set which conditions are valid for the frost alarm. The frost alarm is active in cold outdoor temperatures in combination with precipitation.

Start frost alarm when	
an external temperature of (in 0.1 °C) is not reached.	-50 ... 40; <u>20</u>
during or until (in hours) after precipitation.	1 ... 10; <u>5</u>
End frost alarm when	
an external temperature of (in 0.1 °C) for more than (in hours) is exceeded.	30 ... 100; <u>50</u>
	1 ... 10; <u>5</u>

Define the send pattern and the object value.

Send pattern	<ul style="list-style-type: none"> • <u>on change</u> • on change to frost • on change to no frost • on change and periodically • on change to frost and periodically • on change to no frost and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>1 min</u>
Object value with frost	0 • <u>1</u>

6.8. Brightness measurement value

Set the send pattern for the measured brightness.

Send pattern	<ul style="list-style-type: none"> • <u>never</u> • periodically • on change • on change and periodically
at and above change in % (if sent on change)	1 ... 100; <u>20</u>
Send cycle (if sent periodically)	<u>5 s</u> ... 2 h

6.9. Brightness threshold values

Activate the brightness threshold values required (maximum four) The menus for the further setting of the threshold values are then displayed.

Threshold value 1	<u>No</u> • Yes
Threshold value...	<u>No</u> • Yes
Threshold value 4	<u>No</u> • Yes

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

6.9.1. Brightness threshold value 1-4

Threshold value

Set, in which cases threshold values and delay times received are to be kept per object. The parameter is only taken into consideration if the specification/ setting by object is activated further down. 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 call (setting via objects is ignored).

Maintain the threshold values and delays received via communication objects	<ul style="list-style-type: none"> • <u>never</u> • after power supply restoration • after power supply restoration and programming

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

Threshold value setpoint using	<u>Parameter</u> • Communications object
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When the **threshold value per parameter** is specified, then the value is set.

Threshold value in kLux	1000 ... 150000; <u>60000</u>
-------------------------	-------------------------------

When the **threshold value per communication object** is specified, the starting value, object value limit and type of change to the threshold value are then set.

Start threshold value in Lux valid until first call	1000 ... 150000; <u>60000</u>
Object value limit (min.) in Lux	<u>1000</u> ... 150000
Object value limit (max.) in Lux	1000 ... <u>150000</u>
Type of threshold change	<u>Absolute value</u> • Increase/decrease
Increment in Lux (upon increase/decrease change)	1000 • <u>2000</u> • 5000 • 10000 • 20000

With both of the methods for specifying the threshold values the hysteresis is set.

Hysteresis setting	in % • <u>absolute</u>
Hysteresis in % of the threshold value (for setting in %)	0 ... 100; <u>50</u>
Hysteresis in Lux (for absolute setting)	0 ... 150000; <u>30000</u>

Switching output

Define which value the output transmits if the threshold value is exceeded or undercut. Set the delay for the switching and in which cases the switch output transmits.

When the following conditions apply, the output is (LV = Threshold value)	<ul style="list-style-type: none"> • <u>GW above = 1</u> <u>GW - Hyst. below = 0</u> • <u>GW above = 0</u> <u>GW - Hyst. below = 1</u> • <u>GW below = 1</u> <u>GW + Hyst. above = 0</u> • <u>GW below = 0</u> <u>GW + Hyst. above = 1</u>
Delays can be set via objects (in seconds)	<u>No</u> • Yes
Delay from 0 to 1	<u>none</u> • 1 s ... 2 h
Delay from 1 to 0	<u>none</u> • 1 s ... 2 h
Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle (if sent periodically)	<u>5 s</u> ... 2 h

Block

If necessary, activate the switching output block and set what a 1 or 0 at the block entry means and what happens in the event of a block.

Use switching output block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • At value 1: block At value 0: release • At value 0: block At value 1: release
Blocking object value before first call	<u>0</u> • 1
Action when locking	<ul style="list-style-type: none"> • <u>Do not send message</u> • send 0 • send 1
Action upon release (with 2 seconds 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

6.10. Twilight brightness threshold values

Activate the twilight threshold values required (maximum four) The menus for the further setting of the threshold values are then displayed.

Threshold value 1	<u>No</u> • Yes
Threshold value...	<u>No</u> • Yes
Threshold value 4	<u>No</u> • Yes

6.10.1. Twilight threshold value 1-4

Threshold value

Set, in which cases threshold values and delay times received are to be kept per object. The parameter is only taken into consideration if the specification/ setting by object is activated further down. Please note that the setting "After power restoration and pro-

gramming" should not be used for the initial start-up, as the factory settings are always used until the first call (setting via objects is ignored).

Maintain the threshold values and delays received via communication objects	<ul style="list-style-type: none"> • never • after power supply restoration • after power supply restoration and programming
---	---

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

Threshold value setpoint using	<u>Parameter</u> • Communications object
--------------------------------	--

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

Threshold value in kLux	1 ... 1000; <u>10</u>
-------------------------	-----------------------

When the **threshold value per communication object** is specified, the starting value, object value limit and type of change to the threshold value are then set.

Start threshold value in Lux valid until first call	1 ... 1000; <u>10</u>
Object value limit (min.) in Lux	<u>1</u> ... 1000
Object value limit (max.) in Lux	1 ... <u>1000</u>
Type of threshold change	<u>Absolute value</u> • Increase/decrease
Increment in Lux (upon increase/decrease change)	1000 • <u>2000</u> • 5000 • 10000 • 20000

With both of the methods for specifying the threshold values the hysteresis is set.

Hysteresis setting	in % • <u>absolute</u>
Hysteresis in % of the threshold value (for setting in %)	0 ... 100; <u>50</u>
Hysteresis in Lux (for absolute setting)	0 ... 1000; <u>5</u>

Switching output

Define which value the output transmits if the threshold value is exceeded or undercut. Set the delay for the switching and in which cases the switch output transmits.

When the following conditions apply, the output is (LV = Threshold value)	<ul style="list-style-type: none"> • <u>GW above = 1 GW - Hyst. below = 0</u> • GW above = 0 GW - Hyst. below = 1 • GW below = 1 GW + Hyst. above = 0 • GW below = 0 GW + Hyst. above = 1
Delays can be set via objects (in seconds)	<u>No</u> • Yes
Delay from 0 to 1	<u>none</u> • 1 s ... 2 h
Delay from 1 to 0	<u>none</u> • 1 s ... 2 h

Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle (if sent periodically)	<u>5 s</u> ... 2 h

Block

If necessary, activate the switching output block and set what a 1 or 0 at the block entry means and what happens in the event of a block.

Use switching output block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block At value 0: release</u> • At value 0: block At value 1: release
Blocking object value before first call	<u>0</u> • 1
Action when locking	<ul style="list-style-type: none"> • <u>do not send message</u> • send 0 • send 1
Action upon release (with 2 seconds 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

6.11. Night

If necessary, activate the night recognition.

Use night recognition	<u>No</u> • Yes
-----------------------	------------------------

Set, in which cases delay times received are to be kept per object. The parameter is only taken into consideration if the setting by object is activated further down. 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 call (setting via objects is ignored).

Maintain the delays received via communication objects	<ul style="list-style-type: none"> • never • after power supply restoration • after power supply restoration and programming
--	---

Specify below which brightness the device should recognise "night" and with which hysteresis this is to be outputted.

Night is recognised below Lux	1 ... 1000; <u>10</u>
Hysteresis in Lux	0 ... 500; <u>5</u>

Set the delay for the switching and in which cases the switch output sends and which value is output at night.

Delays can be set via objects (in seconds)	<u>No</u> • Yes
Switching delay on night	<u>none</u> • 1 s ... 2 h
Switching delay on day	<u>none</u> • 1 s ... 2 h
Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to night • on change to day • on change and periodically • on change to night and periodically • on change to day and periodically
Send cycle (if sent periodically)	<u>5 s</u> ... 2 h
Object value at night	0 • <u>1</u>

6.12. Sun position

Select whether the device should calculate the sun position itself or if the values are received via the bus. The type of object and send pattern are also set.

Sun position	<u>is calculated</u> • is received
Object type	<u>4 Byte floating point</u> • 2 Byte floating point
Send pattern (if the sun position is calculated by the device)	<ul style="list-style-type: none"> • <u>never</u> • periodically • on change • on change and periodically

on change of <i>(if sent on change)</i>	0.1 degrees • 0.2 degrees • 0.5 degrees • <u>1.0 degree</u> • 2.0 degrees • 5.0 degrees
Send cycle <i>(if sent periodically)</i>	5 s ... 2 h; <u>1 min</u>

6.13. Wind measurement

If necessary, activate the wind malfunction object. Specify whether the measurement should also be output in Beaufort.

Use malfunction object	<u>No</u> • Yes
Measured value additionally output in the Beaufort scale	<u>No</u> • Yes

Define the send pattern and, if necessary, activate the maximum value (this value is not retained after a reset).

Send pattern	<ul style="list-style-type: none"> • <u>never</u> • periodically • on change • on change and periodically
on change of <i>(if sent on change)</i>	2% • <u>5%</u> • 10% • 25% • 50%
Send cycle <i>(if sent periodically)</i>	5 s ... 2 h; <u>10 s</u>
Use maximum value	<u>No</u> • Yes

Beaufort scale

Beaufort	Meaning
0	Calm
1	Light air
2	Light breeze
3	Gentle breeze
4	Moderate breeze
5	Fresh breeze
6	Strong breeze
7	High wind
8	Gale
9	Severe gale
10	Storm
11	Violent storm
12	Hurricane

6.14. Wind threshold values

Activate the wind threshold values required (maximum four) The menus for the further setting of the threshold values are then displayed.

Threshold value 1	<u>No</u> • Yes
Threshold value...	<u>No</u> • Yes
Threshold value 4	<u>No</u> • Yes

6.14.1. Wind threshold value 1-4

Threshold value

Set, in which cases threshold values and delay times received are to be kept per object. The parameter is only taken into consideration if the specification/ setting by object is activated further down. 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 call (setting via objects is ignored).

Maintain the threshold values and delays received via communication objects	<ul style="list-style-type: none"> • never • after power supply restoration • after power supply restoration and programming
.	

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

Threshold value setpoint using	<u>Parameter</u> • Communications object
--------------------------------	--

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

Threshold value in 0.1 m/s	1 ... 350; <u>40</u>
----------------------------	----------------------

When the **threshold value per communication object** is specified, the starting value, object value limit and type of change to the threshold value are then set.

Start threshold value in 0.1 m/s valid until first call	1 ... 350; <u>40</u>
Object value limit (min.) in 0.1 m/s increments	<u>1</u> ... 350
Object value limit (max.) in 0.1 m/s increments	1 ... <u>350</u>
Type of threshold change	<u>Absolute value</u> • Increase/decrease
Step size (upon increase/decrease change)	0.1 m/s • 0.2 m/s • <u>0.5 m/s</u> • 1.0 m/s • 2.0 m/s • 5.0 m/s

With both of the methods for specifying the threshold values the hysteresis is set.

Hysteresis setting	in % • <u>absolute</u>
Hysteresis in % (relative to threshold value) (for setting in %)	0 ... 100; <u>50</u>
Hysteresis in 0.1 m/s (for absolute setting)	0 ... 350; <u>20</u>

Switching output

Define which value the output transmits if the threshold value is exceeded or undercut. Set the delay for the switching and in which cases the switch output transmits.

When the following conditions apply, the output is (LV = Threshold value)	<ul style="list-style-type: none"> • <u>GW above = 1 GW - Hyst. below = 0</u> • <u>GW above = 0 GW - Hyst. below = 1</u> • <u>GW below = 1 GW + Hyst. above = 0</u> • <u>GW below = 0 GW + Hyst. above = 1</u>
Delays can be set via objects (in seconds)	<u>No</u> • Yes
Delay from 0 to 1	<u>none</u> • 1 s ... 2 h
Delay from 1 to 0	<u>none</u> • 1 s ... 2 h
Switching output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle (if sent periodically)	<u>5 s</u> ... 2 h

Block

If necessary, activate the switching output block and set what a 1 or 0 at the block entry means and what happens in the event of a block.

Use switching output block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block At value 0: release</u> • <u>At value 0: block At value 1: release</u>
Blocking object value before first call	<u>0</u> • 1
Action when locking	<ul style="list-style-type: none"> • <u>Do not send message</u> • send 0 • send 1
Action upon release (with 2 seconds 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

6.15. Summer Compensation

With the summer compensation the target value for the room temperature can automatically be adapted by cooling at higher outdoor temperatures. The objective is to prevent a too great a difference between indoor and outdoor temperature in order to keep the energy consumption low.

Activate the summer compensation.

Use summer compensation	<u>No</u> • Yes
-------------------------	-----------------

Using the points 1 and 2, define the outdoor temperature range in which the target value for the indoor temperature is to be adapted linearly. Then, specify which indoor temperature target values are to be valid below point1 and above point 2.

Standard values according to DIN EN 60529

Point 1: External temperature = 20°, Target value = 20°C.

Point 2: External temperature = 32°, Target value = 26°C.

Characteristic curve description:	
External temperature point 1 (in 0.1°C increments)	0 ... 500 ; <u>200</u>
Outdoor temperature point 2 (in 0.1°C increments)	0 ... 500 ; <u>320</u>
below point 1 the target value is (in 0.1°C)	0 ... 500 ; <u>200</u>
above point 2 the target value is (in 0.1°C)	0 ... 500 ; <u>260</u>

Set the send pattern for the summer compensation.

Send pattern	<ul style="list-style-type: none"> • periodically • <u>on change</u> • on change and periodically
--------------	--

on change of (if sent on change)	0.1°C • <u>0.2°C</u> • 0.5°C • 1°C • 2°C • 5°C
Send cycle (if sent periodically)	5 s ... 2 h; <u>1 min</u>

If necessary, activate the block for the summer compensation and set what a 1 or 0 at the block input means and what happens in the event of a block.

Use block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block</u> <u>At value 0: release</u> • <u>At value 0: block</u> <u>At value 1: release</u>
Blocking object value before first call	<u>0</u> • 1
Action when locking	<ul style="list-style-type: none"> • <u>do not send</u> • <u>Send value</u>
Value (in increments of 0.1°C) (if a value is sent during blocking)	0 ... 500; <u>200</u>

6.16.

6.17. Optimal usage of façade controller functions

6.17.1. Classifying the façades for the control unit

The control options for shades are façade-related functions.

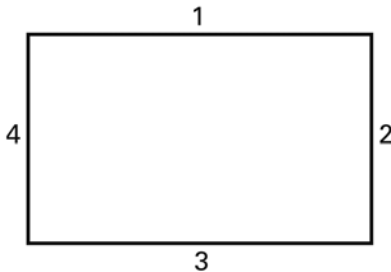


Abb. 18

Most buildings have 4 façades. It is generally recommended that the solar protection of each façade be controlled separately.

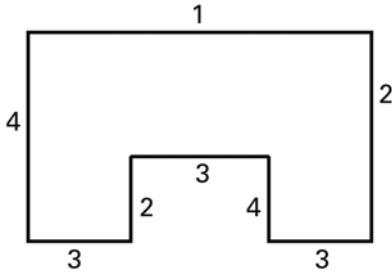


Abb. 19

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

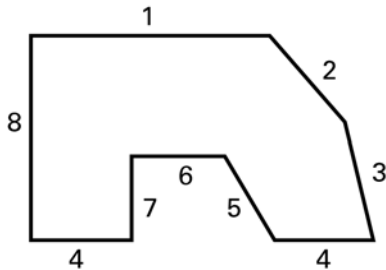


Abb. 20

In buildings with an asymmetrical layout the façades with a non-right-angled orientation (2, 3, 5) and façades that are set back (6) 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, the deployment of another weather station is recommended; particularly as this also makes it possible to measure the wind speed in another location.

When there are several buildings, wind measurement should take place separately for each building (e.g. with additional KNX W sl wind sensors), as, depending on the positions of the buildings in relation to one another, different wind speeds may occur.

6.17.2. Orientation and inclination of the façade

Alignment and slant of the façade are needed for the shadow edge tracking and the slat auto-guide.

Top view

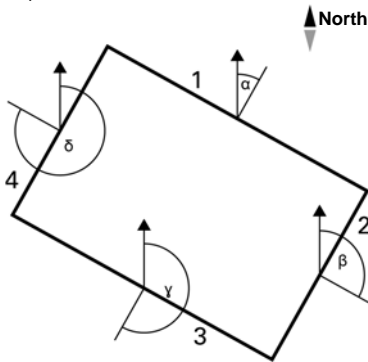


Abb. 21

The façade orientation corresponds to the angle between the North-South axis and the façade vertical. The angle α is measured here in a clockwise direction.

The façade orientations result as follows:

- Façade 1: α
- Façade 2: $\beta = \alpha + 90^\circ$
- Façade 3: $\gamma = \alpha + 180^\circ$
- Façade 4: $\delta = \alpha + 270^\circ$

Example: If the building is skewed by $\alpha = 30^\circ$, then the direction for façade 1 = 30° , façade 2 = 120° , façade 3 = 210° and façade 4 = 300° .

Side view

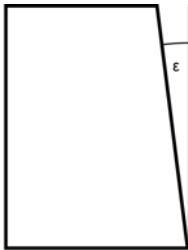


Abb. 22

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 to be controlled separately.

Remember, when setting a façade inclination greater than 0° also to adjust the height of the sun at which shading is to take place.

6.18. Simulation

Simulation objects help when testing the settings that have been made for façades. They are activated in the setting area *Façades*. By sending various values to the simulation objects number 576 to 591 different weather conditions and times of day can be tested. With the object "590 façade simulation reset (1:Reset)" you can delete all the simulation values that were set.

Activating simulation

In order to start the simulation, the simulation object for the façade must be activated. For façade 1, for example, the object is "592 façade 1 simulation (1: On | 0: Off)" Set the value of this object to 1 to start the simulation for façade 1.

The facade and all other subordinate functions must be released (no active blocks) so that the simulated positions can be output.

When the simulation is activated the retraction delay (movement delay LONG) is set to 10 seconds. All other delay times are set to 0. All output objects of the relevant façade adapt their state to the values of the input objects for the simulation. The objects for normal operation are ignored.

Ending the simulation

Set the value of the object "Façade 1 simulation (1:on | 0:off)" to 0 to end the simulation for façade 1.

When deactivating the simulation, it is possible that when an automation is performed for the first time (e.g. sun automation) that the delay times from the simulation are still used. All output objects of the relevant façade adapt their state to the values of the input objects for normal operation. The simulation objects are once again ignored.

The most recently received values for the simulation objects and also for the objects for normal operation are retained when switching between simulation and normal mode. No reset takes place. This means that when the simulation is ended the last used value for normal operation is applied.

Calculation of the sun position for the simulation

During the simulation it is possible to have the sun position, dependent on the simulation object for date and time, sent to the bus. In order that this functions, a location must be set in the product parameters or the location received via GPS. As long as the location is unknown sun positions are not calculated in the simulation.

6.19. Status output

The status of the automation functions of the façade controller can be used for visualisation or other bus functions. The device offers various possibilities for the status output.

Object status

A status object is available for every function of the automatic.

For the rain alarm on façade 1, for example, it is the object No. 605 "Façade 1 rain alarm status".

Status of all façades

The status of all façades and their automatic functions can be issued in a compact form via an automatic status-bit object. For this purpose, a status of safety, automatic delay after an alarm, wind extension block, timed opening, outdoor temperature block, timed/night closure, heat protection, pyranometer, rain automation, indoor temperature block, shading because of the sun or automatic status, can be issued for every façade. Only the condition of one function of one façade is always issued. Using the object 575 one can switch to the next function (status-bit) and/or with the object 570 to the next façade.

The objects 568 to 575 are used for the compact output.

No	Identification	Range	Function / Info
568	Façade X channel Status output	Activation	Set to "active" in order to use the status output
569	Façade X channel Name	Façade	Output of the façade name (when changing façades). Name of the parameter can be adapted (see <i>Fassade Sicherheit</i> , page 92).
570	Façade X channel (1:+ 0:-)	Façade	Change to the next/previous façade.
571	Façade X channel Status text	Status	Output of the condition of the selected status-bit as text. Text can be adapted per parameter, see <i>Texte für Fassade (Objekt „Fass. X Kanal Zustand Text“)</i> , page 91.
572	Façade X channel Status-bit text	Status	Text output for visualising the selected status-bit (when changing the status bit). Text can be adapted per parameter, see <i>Texte für Status-Bits (Objekt „Fass. X Kanal Statusbit Text“)</i> , page 92.
573	Façade X channel Status-bit condition	Status	Output of the selected automatic status-bit
574	Façade X channel Delay	Status	Displaying the delay time for the selected status-bit. Some automation functions have delay times that must first be run through before the status-bit is (re-)set.
575	Façade X channel Status-bit selection (1:+ 0:-)	Status	Output of the automatic status-bit

Status of a façade

The compact form of the status output described for all façades can also be performed for single façades. For this, the objects 650 to 655 are used for façade 1, for the other façades the objects named accordingly for the desired façade. The status output corresponds to that for all façades, only that here the objects for changing façades and the text object for the output of the name of the façade are missing. The text output with the object 652 "Façade 1 channel status-bit text" is also taken from the table *Texts for object „façade. X: Channel status-bit text“*.

6.20. Optimal usage of façade controller functions

6.20.1. Classifying the façades for the control unit

The control options for shades are façade-related functions.



Abb. 23

Most buildings have 4 façades. It is generally recommended that the solar protection of each façade be controlled separately.

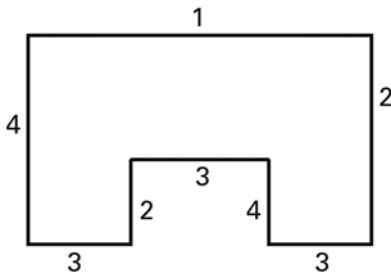


Abb. 24

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

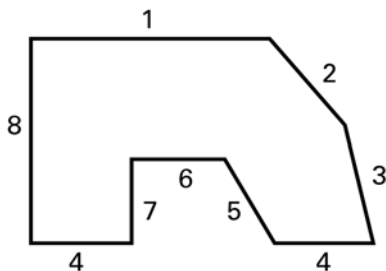


Abb. 25

In buildings with an asymmetrical layout the façades with a non-right-angled orientation (2, 3, 5) and façades that are set back (6) 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, the deployment of another weather station is recommended; particularly as this also makes it possible to measure the wind speed in another location.

When there are several buildings, wind measurement should take place separately for each building (e.g. with additional KNX W sl wind sensors), as, depending on the positions of the buildings in relation to one another, different wind speeds may occur.

6.20.2. Orientation and inclination of the façade

Alignment and slant of the façade are needed for the shadow edge tracking and the slat auto-guide.

Top view

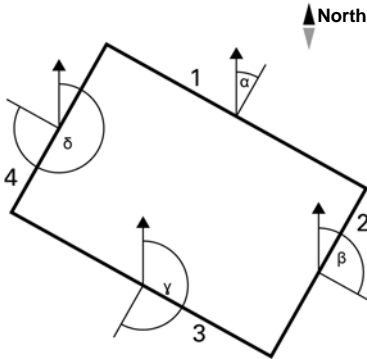


Abb. 26

The façade orientation corresponds to the angle between the North-South axis and the façade vertical. The angle α is measured here in a clockwise direction.

The façade orientations result as follows:

- Façade 1: α
- Façade 2: $\beta = \alpha + 90^\circ$
- Façade 3: $\gamma = \alpha + 180^\circ$
- Façade 4: $\delta = \alpha + 270^\circ$

Example: If the building is skewed by $\alpha = 30^\circ$, then the direction for façade 1 = 30° , façade 2 = 120° , façade 3 = 210° and façade 4 = 300° .

Side view

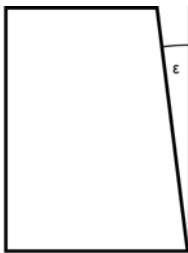


Abb. 27

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 to be controlled separately.

Remember, when setting a façade inclination greater than 0° also to adjust the height of the sun at which shading is to take place.

6.20.3. Façade safety

Set the basic and safety relevant functions for the façade.

Enter a name for the façade and specify whether simulation objects are to be loaded. Simulation help when testing the settings that have been made. For this observe the chapter *Simulation*, page 88.

For shutters and slat blinds use the setting - shade has slats. As a result, further settings, especially for slats, are possible.

Name	Façade 1 [Free text]
Use simulation objects	<u>No</u> • Yes
Does the shade have slats?	<u>No</u> • Yes

Configure the blocking for the façade and define how safety/ alarm objects and movement/position objects are to be handled.

Analysis of the blocking object	<ul style="list-style-type: none"> • <u>1 = block</u> 0 = release • 0 = block 1 = release
Blocking object value before first call	<u>0</u> • 1
Action after locking	<ul style="list-style-type: none"> • <u>executing the last automation command</u> • Waiting for next automation command
Consolidate wind, frost and rain alarms to safety object?	<u>No</u> • Yes
Send pattern of the safety and alarm status objects	<ul style="list-style-type: none"> • <u>on change</u> • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>
Send pattern of the move and slat position objects	<ul style="list-style-type: none"> • <u>on change</u> • on change and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

Set, in which cases threshold values received are to be kept per object.

Maintain the target threshold values received via communication objects	<ul style="list-style-type: none"> • <u>never</u> • after power supply restoration • after power supply restoration and programming
(applicable for façade safety and façade automation)	

This setting also affects the release objects of the facade automation (opening time, outdoor temperature block, time and night closing, heat protection, pyranometer, rain automation, indoor temperature block and solar protection automation).

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 call (setting via objects is ignored).

Priorities

The functions of the façade are arranged according to their priorities. First named have higher priority. 1. Wind, 2. Frost, 3. Rain.

Wind alarm

Wind threshold values that have been exceeded can trigger an alarm, i.e. the shade is retracted and a wind extension block is activated, i.e. the shade will no longer be extended (not even by manual commands).

If the wind alarm is used, then, as a precaution, the alarm is activated, if over a period of 48 hours no change in the measured value has been recorded at the relevant wind sensor.

Set with what the wind alarm and, if desired, wind extension blocking is to be defined.

Use	<ul style="list-style-type: none"> • <u>No</u> • as wind alarm per threshold value • as wind alarm per bit object • as wind alarm and extension block per threshold value • as wind alarm per threshold value/extension block per bit object • as wind alarm per bit object/extension block per threshold value • as wind alarm/wind extension block per bit object
-----	--

If **alarm or extension block per bit object** is defined, no further settings are required. The duration of blocking by the automation after a wind alarm is set in the "façades" menu (see *Wind and rain alarm*, page 91).

If **Alarm or extension block per threshold value** is defined, then set which sensors are relevant for this. The wind value measured internally in the device can be used, but also the values of the external wind communication objects assigned to the façades. As soon as the selected values exceed the threshold value the block or the alarm is triggered.

Internal sensor measurement	No • <u>Yes</u>
Communication object measurements	
Façade wind 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8	<u>No</u> • Yes

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

Threshold value setpoint using	<u>Parameter</u> • object
--------------------------------	---------------------------

When the **threshold value per parameter** is specified, then the value and delay time are set.

Wind threshold value (in 0.1 m/s) prevents shading (extension block)	0 ... 255; <u>40</u>
Wind alarm threshold (in 0.1 m/s) retracts the shade (wind alarm)	0 ... 255; <u>40/80</u> ;
Wind alarm delay (in s)	0 ... 255; <u>2</u>

When the **threshold value per communication object** is specified, then the starting value, minimum and maximum threshold value and delay time are set.

Wind alarm threshold (in 0.1 m/s) retracts the shade	0 ... 255; <u>80</u>
Minimum threshold value (in 0.1 m/s)	0 ... 255; <u>20</u>
Maximum threshold value (in 0.1 m/s)	0 ... 255; <u>120</u>
0.5 m/s increment	
Wind alarm delay (in s)	0 ... 255; <u>2</u>

Frost alarm

Set whether the frost alarm is to be used for this façade. Further parameters for the frost alarm are set in the "façades" menu (see *Frost alarm*, page 93).

Use	<u>No</u> • Yes
-----	-----------------

If the frost alarm is used, then, as a precaution, the alarm is activated, if over a period of 48 hours no change in the measured value has been recorded at the relevant outdoor temperature sensor.

Rain

In the event of precipitation either a rain alarm can be triggered for the façade, i.e. the shade is retracted and blocked, or a rain automation is executed. The rain automation moves to a certain position and is valid for the periods set. At other times with "rain automation" set the shade does not react to precipitation.

Further parameters for the rain automation are set in the "façades" menu (see *Rain automation*, page 91). Rain alarm does not have any extension delay.

Set whether precipitation should trigger the rain alarm or the rain automation.

Use	<ul style="list-style-type: none"> • <u>No</u> • as rain alarm • as rain automation
-----	--

If in the event of precipitation, the **rain automation** is triggered, then set in which periods of the week and the calendar-timer, the rain movement position is to be travelled

to. The periods are defined in the menu "week timer" or "month timer" (see *Weekly timer*, page 115 and *Calendar timer*, page 117).

Use rain automation	
with week timer	
Period 1 24	<u>No</u> • Yes
with calendar timer	
Period 1...4 Sequence 1/2	<u>No</u> • Yes

Then also set the movement position.

Movement position (in %)	<u>0</u> ...100
Slat position (in %) (only for window shades with slats)	<u>0</u> ...100

Define the value of the release object for the rain automation. Using the release object, the rain automation can be deactivated at short-notice.

Evaluation of the rain automation - release object	<u>1 = activated</u> <u>0 = deactivated</u> <u>0 = activated</u> <u>1 = deactivated</u>
value until first call	<u>0</u> • <u>1</u>

Define the follow-up time The follow-up time is the delay time after the end of the precipitation warning.

Rain automation follow-up time in minutes	1 ... 120; <u>5</u>
--	---------------------

Within the automation functions the rain automation has a low priority. To display the sequence, rain automation is also listed in the *Façade X automation* without the settings being possible.

6.20.4. Façade automation

Set automation for the façade

Priorities

The functions of the façade are arranged according to their priorities. First named have higher priority. 1. Time open, 2. Outdoor temperature block, 3. Time and night closure, 4. Heat protection, 5. Pyranometer 6. Rain automation 7. Interior temperature block, 8. Solar protection automation.

Time open

The curtain can, at certain times, be opened compulsorily or stay open. For time opening, a movement position can be defined.

Set whether a time opening is to be used.

Use	<u>No</u> • Yes
-----	------------------------

Set in which periods of the week and the calendar-timer, the time opening movement position is to be approached. The periods are defined in the menu "week timer" or "month timer" (see *Weekly timer*, page 91 and *Calendar timer*, page 93).

Use time opening	
with week timer	
Period 1 24	<u>No</u> • Yes
with calendar timer	
Period 1...4 Sequence 1/2	<u>No</u> • Yes

Set the movement position. Define the value of the release object for time opening. Using the release object, time opening can be deactivated at short-notice.

Movement position (in %)	<u>0</u> ... 100
Slat position (in %) (only for window shades with slats)	<u>0</u> ... 100
Evaluation of the Time opening-release object	<u>1 = activated</u> <u>0 = deactivated</u> <u>0 = activated</u> <u>1 = deactivated</u>
value until first call	<u>0</u> • <u>1</u>

Outdoor temperature block

Below a certain outdoor temperature, the shade is withdrawn.

Set whether an outdoor temperature block is to be used. The threshold value can also be set by "changeable per object".

Use	<ul style="list-style-type: none"> • <u>No</u> • Yes • changeable per object
-----	---

Then set the threshold value for the temperature block and the hysteresis for the event that the value is exceeded.

Deactivate block for outdoor temperatures above	
Threshold value (in 0.1°C increments) (if changeable: until first call)	-200 ... 300; <u>50</u>
Hysteresis (in 0.1°C)	-200 ... 300; <u>30</u>

When specifying the threshold value **by object** the minimum and maximum values that can be set and the increment for the change are also defined.

Minimum variable per object Threshold value (in 0.1°C increments)	-200 ... 300; <u>0</u>
Maximum variable per object Threshold value (in 0.1°C increments)	-200 ... 300; <u>200</u>
Increment for threshold value change (in 0.1°C)	1 ... 20; <u>5</u>

Define the value of the release object for the outdoor temperature block. Using the release object, the outdoor temperature block can be deactivated at short-notice.

Evaluation of the outdoor temperature - release object	<u>1 = activated 0 = deactivated</u> 0 = activated 1 = deactivated
value until first call	0 • <u>1</u>

If the outdoor temperature block is used, then, as a precaution, the block is activated, if over a period of 48 hours no change in the measured value has been recorded at the relevant temperature sensor.

Time and night closure

The curtain can, at certain times, and at night, be closed compulsorily. For the time and night closure a movement position can be defined.

Set whether a time and/or night closure is to be used

Use	<u>No</u> • Yes
Use timed closure	<u>No</u> • Yes
Use night-time closure	<u>No</u> • Yes

For the **timed closure**, set in which periods of the week and the calendar-timer, the timed closure movement position is to be travelled to. The periods are defined in the menu "week timer" or "month timer" (see *Weekly timer*, page 91 and *Calendar timer*, page 93).

Use time opening with week timer	
Period 1 24	<u>No</u> • Yes
with calendar timer	
Period 1...4 Sequence 1/2	<u>No</u> • Yes

Define the value of the release object for the timed closure. Using the release object, the timed closure can be deactivated at short-notice.

Evaluation of the Timed closure-release object	<u>1 = activated 0 = deactivated</u> 0 = activated 1 = deactivated
value until first call	0 • <u>1</u>

Define the value of the release object for the **night closure**. Using the release object, the night closure can be deactivated at short-notice.

Evaluation of the Timed closure-release object	<u>1 = activated 0 = deactivated</u> 0 = activated 1 = deactivated
value until first call	0 • <u>1</u>

The brightness below which the "night" is recognised is set in the "façades" menu (see twilight).

You can define that the **time and night closure** are only performed once per period/night. Then also set the movement position.

Night and timed closure only once	<u>No</u> • Yes
Position for night or timed closure	
Movement position (in %)	0 ... <u>100</u>
Slat position (in %) (only for window shades with slats)	0 ... <u>100</u>

Heat protection

Above a certain outdoor temperature, a heat protection can be travelled to. Further parameters for heat protection are set in the "façades" menu (see *Heat protection*, page 80).

Define the value of the release object. Using the release object, the heat protection can be deactivated at short-notice.

Evaluation of the heat protection object value until first call	<u>1 = activated</u> 0 = deactivated 0 = activated <u>1 = deactivated</u>
	0 • <u>1</u>

Set the movement position.

Position for heat protection	
Movement position (in %)	0 ... <u>100</u>
Slat position (in %) (only for window shades with slats)	0 ... 100; <u>90</u>

If heat protection is used, then, as a precaution, protection is activated, if over a period of 48 hours no change in the measured value has been recorded at the relevant temperature sensor.

Pyranometer (global radiation)

Above a certain global radiation value, a protection position can be taken up.

Set whether the global radiation is to be considered. The threshold value can also be set by "changeable per object".

Use	<ul style="list-style-type: none"> • <u>No</u> • Yes • changeable per object
-----	---

Then set the threshold value for the global radiation and the hysteresis for the event that the value is not reached.

Deactivate block for outdoor temperatures above	
Threshold value (in W/m ²) (if changeable: until first call)	0 ... 2500; <u>500</u>
Hysteresis threshold value in	in percent • <u>in Watt/m²</u>
Hysteresis of the threshold value (in 0.1 °C) (in %)	0 ... 2500; <u>400</u> 0 ... 100; <u>30</u>

When specifying the threshold value **by object** the minimum and maximum values that can be set and the increment for the change are also defined.

Minimum threshold value that can be set (in W/m ²)	0 ... 2500; <u>100</u>
Maximum threshold value that can be set (in W/m ²)	0 ... <u>2500</u>
Threshold value increment (in W/m ²)	0 ... 200; <u>50</u>

Set the movement position and define the value of the release object. Using the release object, the pyranometer controller can be deactivated at short-notice.

Movement position pyranometer	
Movement position (in %)	0 ... <u>100</u>
Slat position (in %) (only for window shades with slats)	0 ... 100; <u>90</u>
Evaluation of the Pyranometer release object	<u>1 = activated</u> <u>0 = deactivated</u> <u>0 = activated</u> <u>1 = deactivated</u>
value until first call	<u>0 • 1</u>

If global radiation monitoring is used, then, as a precaution, the protection is activated, if over a period of 48 hours no change in the measured value has been recorded at the relevant pyranometer.

Rain automation

If rain protection has configured as rain automation, then its priority is between the pyranometer controller and the interior temperature block. Rain automation is set in the general settings of the *façade* (see chapter *Rain automation*, page 81) and at *façade X safety* (see chapter *Rain*, page 76).

Interior temperature block

Below a certain interior temperature, the curtain can be prevented from opening.

Set whether an interior temperature block is to be used. The threshold value can also be set by "changeable per object".

Use	<ul style="list-style-type: none"> • <u>No</u> • Yes • changeable per object
-----	---

Then set the threshold value for the temperature block and the hysteresis for the event that the value is not reached.

Allow shading at internal temperature above	
Threshold value (in 0.1°C increments) (if <i>changeable</i> : until first call)	-32768 ... 32767; <u>200</u>
Hysteresis (in 0.1°C)	-200 ... 300; <u>20</u>

When specifying the threshold value **by object** the minimum and maximum values that can be set and the increment for the change are also defined.

Minimum variable per object Threshold value (in 0.1°C increments)	-32768 ... 32767; <u>100</u>
Maximum variable per object Threshold value (in 0.1°C increments)	-32768 ... 32767; <u>350</u>
Increment for threshold value change (in 0.1°C)	1 ... 20; <u>5</u>

Define the value of the release object for the interior temperature block. Using the release object, the interior temperature block can be deactivated at short-notice.

Evaluation of the interior temperature blocking release object	<u>1 = activated</u> <u>0 = deactivated</u> 0 = activated 1 = deactivated
value until first call	0 • <u>1</u>

Solar protection automation

If none of the blocks is active, then the position of the sun and the brightness are checked and is, corresponding to the solar protection automation, shaded.

Set whether solar protection automation is to be used.

Use	<u>No</u> • Yes
-----	-----------------

Define the value of the release object for solar protection automation. Using the release object, solar protection automation can be deactivated at short notice.

Evaluation of the Solar automation release object	<u>1 = activated</u> <u>0 = deactivated</u> 0 = activated 1 = deactivated
value until first call	0 • <u>1</u>

Sun position

Set the direction and height of the sun for shading. The angle, which is specified for the direction of the sun (azimuth), is aligned according to the orientation of the façade. In addition, the angle of the façade and obstacles which cast a shadow on the façade, such as, for example, a wall or overhanging roof, can also be taken into account in the setting for sun direction (azimuth) and sun height (elevation).

Top view

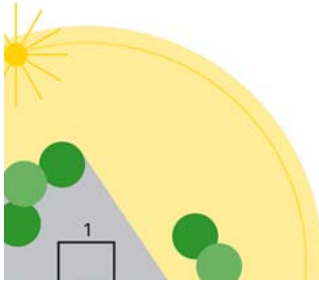


Abb. 28

1a: Sun elevation (Azimuth)

In the morning the building is fully shaded by surrounding trees.

Top view

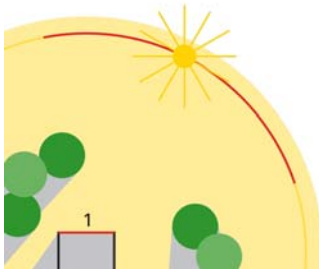


Abb. 29

1b: Sun elevation (Azimuth)

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

Side view

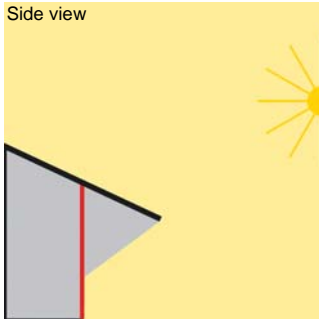


Abb. 30

2: Sun position (Elevation)

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°).

Select whether the ranges for the direction and height of the sun are to be specified per parameter or via a communication object.

Specification for the ranges of sun direction and height by	<u>Parameter</u> • object
---	---------------------------

If the ranges are specified **by parameter**, then several ranges can be specified. Specify the direction for the shading, either with the defined compass direction or with "angle range" and by inputting the values exact to a degree. If the ranges are specified **by communication object**, then only the starting values for direction and height are defined, that are valid until the first call.

Number of ranges for sun direction and height	<u>1</u> • 2 • 3
Range 1 / 2 / 3	
Sun direction (when specified by parameter: valid until first call)	<ul style="list-style-type: none"> • all sides (0° ... 360°) • West (180° ... 360°) • South-West (135° ... 315°) • South (90° ... 270°) • South-East (45° ... 225°) • East (0° ... 180°) • Angle range
at and above (in °) (for angle range)	0 ... 360; <u>90</u>
until (in °) (for angle range)	0 ... 360; <u>270</u>
Sun elevation (when specified by parameter: valid until first call)	<ul style="list-style-type: none"> • every height (0° ... 90°) • Angle range
at and above (in °) (for angle range)	0 ... <u>90</u>
until (in °) (for angle range)	<u>0</u> ... 90
Incrementally in ° (for specification by parameter)	1 ... 10; <u>2</u>

For sun direction and height, a fixed hysteresis of 1° is valid

Brightness value (sensor selection)

Next you select which brightness value (sensor) is to be relevant for the shading of the façade. As a brightness value the highest value actually measured by the three internal sensors can be used, or a value that was received via a communication object.

Brightness sensor selection:	<ul style="list-style-type: none"> • Internal sensors (maximum value) • via communication object
------------------------------	--

Brightness threshold value

Select whether the brightness threshold value is to be specified per parameter or via a communication object. Please observe that the communication object outputs the threshold value in *Lux* the threshold value, however is set in *Kilolux*.

Threshold value definition for brightness per	<u>Parameter</u> • object
---	---------------------------

Set the brightness threshold value and the hysteresis for the event that the value is not reached. If the value is specified via communication object, then a starting value and the possible setting range is defined.

Threshold value (in kLux) (when specified by parameter: valid until first call)	1 ... 150; <u>60</u>
Minimum threshold value that can be set (in kLux) (for specification by parameter)	1 ... 150; <u>10</u>
Maximum threshold value that can be set (in kLux) (for specification by parameter)	1 ... 150; <u>80</u>
Increment for threshold value (kLux) (for specification by parameter)	1 ... 5; <u>5</u>
Hysteresis threshold value in	in percent (%) • <u>in kLux</u>
Hysteresis of the threshold value (in kLux) (in %)	1 ... 150; <u>20</u> 0 ... 100; <u>30</u>

Travel delays

For the shading there are three travel delays:

The **extension delay** defines the waiting time for the sun automation after the brightness threshold value has been exceeded.

At the end of the **short delay time** after the brightness value has not been reached an intermediate position is approached. For example, here a position can be defined that only differs from the shading position "extended" by the slat position on the shutter. The shade does not immediately go up, but lets in somewhat more light. This position is set further down in the same menu.

The **retraction delay** defines the waiting time for the retraction after the brightness threshold value has not been reached.

Select whether the travel delay is to be specified per parameter or via objects.

Specifying the withdrawal and extension delay	<u>Parameter</u> • object
---	---------------------------

Set the delay times. If the delays are specified via communication object, then a starting value and the possible setting range is defined.

Extension delay (in minutes) <i>(when specified by parameter: valid until first call)</i>	<u>1</u> ... 240
Minimum extension delay that can be set (in minutes) <i>(for specification by parameter)</i>	<u>1</u> ... 240
Maximum extension delay that can be set (in minutes) <i>(for specification by parameter)</i>	1 ... 240; <u>40</u>
Incrementally (in minutes) <i>(for specification by parameter)</i>	<u>1</u> ... 10
Brief delay (in seconds) <i>(when specified by parameter: valid until first call)</i>	1 ... 3600; <u>10</u>
Minimum short delay (in seconds) <i>(for specification by parameter)</i>	<u>1</u> ... 3600
Maximum short delay (in seconds) <i>(for specification by parameter)</i>	1 ... 3600; <u>120</u>
Increment (in seconds) <i>(for specification by parameter)</i>	<u>1</u> ... 240
Retraction delay (in minutes) <i>(when specified by parameter: valid until first call)</i>	1 ... 240; <u>30</u>
Minimum extension delay that can be set (in minutes) <i>(for specification by parameter)</i>	1 ... 240; <u>10</u>
Maximum extension delay that can be set (in minutes) <i>(for specification by parameter)</i>	1 ... <u>240</u>
Incrementally (in minutes) <i>(for specification by parameter)</i>	<u>1</u> ... 10

solar protection position

Solar protection extends the shading automatically if

- the sun is coming from the set direction and
- the brightness of the set threshold value
- is exceeded over a period longer the extension delay time.

The solar protection position is a fixed movement position that is set here.

Movement position (in %)	0 ... <u>100</u>
Slat position (in %) <i>(only for window shades with slats)</i>	0 ... 100; <u>80</u>

Intermediate position for the short retraction delay time

Solar protection automation moves to the "short delay" position if

- the shading has been extended by the solar protection automation and
- the brightness is then below the value (threshold value - hysteresis)
- for longer than the short delay time.

For the movement position "short retraction delay" a movement position and a slat position can be set. Settings for slats are only displayed if the shading for the façade has been defined as having slats (see *Façade safety*, page 73).

Use movement position	<u>No</u> • Yes
Movement position (in %)	0 ... <u>100</u>
Use slat position	<u>No</u> • Yes
Slat position (in %)	<u>0</u> ... 100

Standard movement position

Solar protection automation is terminated and the standard position is approached.

- the sun is not coming from the set shading direction or
- the brightness is then below the value (threshold value - hysteresis)
- for longer than the time (short delay + retraction delay time).

Move to position, if no automation with higher priority is being executed	
Movement position (in %)	<u>0</u> ... 100
Slat position (in %) <i>(only for window shades with slats)</i>	<u>0</u> ... 100

Settings for slats are only displayed if the shading for the façade has been defined as having slats (see *Façade safety*, page 73).

Status output façade

Information on the various possibilities for the status output can be found in chapter *Status output*, page 70. In principal the status output is a singular function, but, in compact form, possible for singular and for all façades possible. The texts for the output in compact form are defined in the general settings for the façade (see chapter *Status output*, page 70).

Set which value in the status release object **for this façade** means active respectively in active.

Evaluation of the façade	<u>1 = activated</u> 0 = deactivated
Status release object	0 = activated <u>1 = deactivated</u>
value until first call	<u>0</u> • 1

6.20.5. Computer

Activate the multi-functional computer, with which the input data can be changed by calculation, querying a condition or converting the data point type. The menus for the further setting of the computer are then displayed.

Computer 1	<u>No</u> • Yes
Computer...	<u>No</u> • Yes
Computer 8	<u>No</u> • Yes

6.20.6. Computers 1-8

Set, in which cases input values received are to be kept per object. 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 call (setting via objects is ignored).

Maintain the input values received via communication objects	<ul style="list-style-type: none"> • never • after power supply restoration • after power supply restoration and programming

Select the function set the input mode and starting values for input 1 and input 2.

Function (I = Input)	<ul style="list-style-type: none"> • Prerequisite: $E1 = E2$ • Prerequisite: $E1 > E2$ • Prerequisite: $E1 \geq E2$ • Prerequisite: $E1 < E2$ • Prerequisite: $E1 \leq E2$ • Prerequisite: $E1 - E2 \geq E3$ • Prerequisite: $E2 - E1 \geq E3$ • Prerequisite: $E1 - E2 \text{ amount} \geq E3$ • Calculation: $E1 + E2$ • Calculation: $E1 - E2$ • Calculation: $E2 - E1$ • Calculation: $E1 - E2 \text{ Amount}$ • Calculation: Output 1 = $E1 \times X + Y$ Output 2 = $E2 \times X + Y$ • Transformation: General
Tolerance for comparison (in the case of prerequisite $E1 = E2$)	<u>0</u> ... 4,294,967,295

Input type	[Selection options depending on the function] <ul style="list-style-type: none"> • 1 bit • 1 byte (0...255) • 1 byte (0%...100%) • 1 byte (0°...360°) • 2 byte counter without math. symbol • 2 byte counter with math. symbol • 2 byte floating point • 4 byte counter without math. symbol • 4 byte counter with math. symbol • 4 byte floating point
Starting value E1 / E2 / E3	[Input range depending on the type of input]

Prerequisites

When querying the prerequisites set the output type and output values at different statuses:

Output type	<ul style="list-style-type: none"> • 1 bit • 1 byte (0...255) • 1 byte (0%...100%) • 1 byte (0°...360°) • 2 byte counter without math. symbol • 2 byte counter with math. symbol • 2 byte floating point • 4 byte counter without math. symbol • 4 byte counter with math. symbol • 4 byte floating point
Output value <i>(if applicable output value A1 / A2)</i>	
if the condition is met	<u>Q</u> [Input range depending on the type of output]
if the condition is not met	<u>Q</u> [Input range depending on the type of output]
if the monitoring time period is exceeded	<u>Q</u> [Input range depending on the type of output]
if blocked	<u>Q</u> [Input range depending on the type of output]

Set the output send pattern.

Output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change and after reset • on change and periodically • when receiving an input object • when receiving an input object and periodically
Type of change (is only sent if "on change" is selected)	<ul style="list-style-type: none"> • <u>on each change</u> • on change to condition met • on change to condition not met
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

Set the text to be displayed for conditions met / not met.

Text if the condition is met	[Free text max. 14 chars.]
Text if the condition is not met	[Free text max. 14 chars.]

If applicable set the send delays.

Send delay in the event of change to the condition is met	<u>none</u> • 1 s • ... • 2 h
Send delay in the event of change to the condition is not met	<u>none</u> • 1 s • ... • 2 h

Calculations and transformation

For calculations and transformations set the output values to the various conditions:

Output value (if applicable A1 / A2)	
if the monitoring time period is exceeded	<u>0</u> [Input range depending on the type of output]
if blocked	<u>0</u> [Input range depending on the type of output]

Set the output send pattern.

Output sends	<ul style="list-style-type: none"> • <u>on change</u> • on change and after reset • on change and periodically • when receiving an input object • when receiving an input object and periodically
on change of (only if calculations are transmitted for changes)	1 ... [Input range depending on the type of input]
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

For **Calculations of the form output 1 = E1 × X + Y | output 2 = E2 × X + Y** define the variables X and Y. The variables can have a positive or negative sign, 9 digits before and 9 digits after the decimal point.

Formula for output A1: A1 = E1 × X + Y	
X	<u>1.00</u> [free input]
Y	<u>0.00</u> [free input]
Formula for output A2: A2 = E2 × X + Y	
X	<u>1.00</u> [free input]
Y	<u>0.00</u> [free input]

Further settings for all formulas

If necessary, activate the input monitoring. Set which inputs are to be monitored, at which intervals the inputs are to be monitored and what value the "monitoring status" should have, if the monitoring period is exceeded without feedback.

Use input monitoring	<u>No</u> • Yes
Monitoring of	<ul style="list-style-type: none"> • <u>E1</u> • E2 • E3 • E1 and E2 • E1 and E3 • E2 and E3 • E1 and E2 and E3 [depending on the function]
Monitoring period	5 s • ... • 2 h; <u>1 min</u>
Value of the object "monitoring status" if period is exceeded	0 • <u>1</u>

If necessary, activate the computer block and set what a 1 or 0 at the block entry means and what happens in the event of a block.

Use block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block At value 0: release</u> • At value 0: block At value 1: release
Value before first call	<u>0</u> • 1
Output pattern	<ul style="list-style-type: none"> • <u>do not send anything</u> • send value
On block	
On release	<ul style="list-style-type: none"> • as send pattern [see above] • <u>send current value immediately</u>

6.21. Weekly timer

In the weekly timer in the device 24 periods can be defined. These periods are, for example, used for the internal automatic function timed opening and timed closure.

The respective period objects can be configured as inputs or outputs, i.e. send to the bus (timer internal, use internal and for other bus members) or be switched from there

(timer function via an external device). If several devices are used in the system, the timer settings may be done on one device that sends the period objects as output. The other devices take over the timer-command (input), whereby a better synchronisation is achieved.

Activate the required periods for the weekly timer. The menus for the further setting of the computer are then loaded.

Use period 1	<u>No</u> • Yes
Use period ...	<u>No</u> • Yes
Use period 24	<u>No</u> • Yes

6.21.1. Weekly timer period 1-24

Set whether the period can be set (period object is the output and is sent to the bus) or if the period is received externally via the bus (period object is the input).

Period	<ul style="list-style-type: none"> • <u>can be set</u> (<u>period object is output</u>) • can be switched (time period object is output)
--------	--

Period can be set (time period object is output)

Set whether the switching times are set per object and in which cases the switching times received are to 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 call (setting via objects is ignored).

Use objects for switching times	<u>No</u> • Yes
The threshold values and delays received by the communication object	
Switching data should	<ul style="list-style-type: none"> • <u>not</u> be retained • be retained after power restoration • be retained after power restoration and programming

Set the switching on and off times and the days of the week for this period. 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)	<u>0</u> ... 23
Switch on time (minutes)	<u>0</u> ... 59
Switch-off time (hours)	<u>0</u> ... 23
Switch-off time (minutes)	<u>0</u> ... 59
Period switches to	
Monday ... Sunday	<u>No</u> • Yes

Set the send pattern for the week clock switch output and the value of the output.

Switching output sends	<ul style="list-style-type: none"> • <u>never</u> • on change • on change to active • on change to inactive • on change and periodically • on change to active and periodically • on change to inactive and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>
8-bit output value if Period active	<u>0</u> ... 255
8-bit output value if Period not active	<u>0</u> ... 255

Period that can be switched externally (time period is the input)

The time switches are taken over from an external timer switch. Set at which value the period is to be active and define the object value before the first communication.

Period is active	<ul style="list-style-type: none"> • <u>at object value = 1</u> • at object value = 0
Object value prior to initial communication	<u>0</u> • 1

6.22. Calendar timer

In the calendar timer in the device, four periods with two switching sequences can be defined. These periods are, for example, used for the internal automatic function timed opening and timed closure (see chapter *Time open*, page 77 and *Time and night closure*, page 79).

Activate the required periods for the calendar timer. The menus for the further setting of the computer are then loaded.

Use period 1	<u>No</u> • Yes
Use period ...	<u>No</u> • Yes
Use period 4	<u>No</u> • Yes

6.22.1. Calendar clock Period 1-4

Set whether the switching date and the switching time are set per object and in which cases the switching dates and times received are to 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 call (setting via objects is ignored).

Use objects for switching times	<u>No</u> • Yes
Maintain the	

switching data and times received via communication objects	<ul style="list-style-type: none"> • never • after power restoration • after power restoration and programming
.	

Define the period

From:	
Month	<u>January</u> ... December
Day	<u>1</u> ... 29 / 1 ... 30 / 1 ... 31 (according to month)
Up to and including:	
Month	<u>January</u> ... December
Day	<u>1</u> ... 29 / 1 ... 30 / 1 ... 31 (according to month)

Sequence 1 / 2

Define the switching times.

Switch on time (hours)	<u>0</u> ... 23
Switch on time (minutes)	<u>0</u> ... 59
Switch-off time (hours)	<u>0</u> ... 23
Switch-off time (minutes)	<u>0</u> ... 59
Switching output sends	<ul style="list-style-type: none"> • never • on change • on change to active • on change to inactive • on change and periodically • on change to active and periodically • on change to inactive and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

Set the send pattern for the switch sequence and the value of the 8-bit output.

Switching output sends	<ul style="list-style-type: none"> • <u>never</u> • on change • on change to active • on change to inactive • on change and periodically • on change to active and periodically • on change to inactive and periodically
Send cycle (if sent periodically)	5 s ... 2 h; <u>10 s</u>

8-bit output value if Period active	<u>0</u> ... 255
8-bit output value if Period not active	<u>0</u> ... 255

6.23. Logic

The device has 16 logic inputs, eight AND and eight OR logic gates.

Activate the logic inputs and assign object values up to first call.

Use logic inputs	Yes • <u>No</u>
Object value prior to first call for:	
- Logic input 1	<u>0</u> • 1
- Logic input ...	<u>0</u> • 1
- Logic input 16	<u>0</u> • 1

Activate the required logic outputs.

AND logic

AND logic 1	<u>not active</u> • active
AND logic ...	<u>not active</u> • active
AND logic 8	<u>not active</u> • active

OR logic

OR logic 1	<u>not active</u> • active
OR logic ...	<u>not active</u> • active
OR logic 8	<u>not active</u> • active

6.23.1. AND logic 1-8 and OR logic outputs 1-8

The same setting options are available for AND and OR logic.

Each logic output may transmit one 1 bit or two 8 bit objects. Determine what the output should send if logic = 1 and = 0.

1. / 2. / 3. / 4. Input	<ul style="list-style-type: none"> • <u>do not use</u> - Logic inputs 1...16 - Logic inputs 1...16 inverted • all switching events that the device provides (see <i>Connection inputs of the AND/OR logic</i>)
Output type	<ul style="list-style-type: none"> • <u>a 1-Bit-object</u> • two 8-bit objects

If the **output type is a 1-bit object**, set the output values for the various conditions.

Output value if logic = 1	<u>1</u> • 0
Output value if logic = 0	1 • <u>0</u>
Output value If block is active	1 • <u>0</u>
Output value if monitoring period is exceeded	1 • <u>0</u>

If the **output type is two 8-bit objects**, set the type of object and the output values for the various conditions.

Object type	<ul style="list-style-type: none"> • <u>Value (0...255)</u> • Percent (0...100%) • Angle (0...360°) • Scene call-up (0...127)
Output value object A if logic = 1	0 ... 255 / 100% / 360° / 127; <u>1</u>
Output value object B if logic = 1	0 ... 255 / 100% / 360° / 127; <u>1</u>
Output value object A if logic = 0	0 ... 255 / 100% / 360° / 127; <u>0</u>
Output value object B if logic = 0	0 ... 255 / 100% / 360° / 127; <u>0</u>
Output value object A if block is active	0 ... 255 / 100% / 360° / 127; <u>0</u>
Output value object B if block is active	0 ... 255 / 100% / 360° / 127; <u>0</u>
Output value object A if monitoring period is exceeded	0 ... 255 / 100% / 360° / 127; <u>0</u>
Output value object B if monitoring period is exceeded	0 ... 255 / 100% / 360° / 127; <u>0</u>

Set the output send pattern.

Send pattern	<ul style="list-style-type: none"> • <u>on change of logic</u> • on change of logic to 1 • on change of logic to 0 • on change of logic and periodically • on change of logic to 1 and periodically • on change of logic to 0 and periodically • on change of logic+object receipt • on change of logic+object receipt and periodically
Send cycle (if sent periodically)	5 s • <u>10 s</u> • ... • 2 h

Block

If necessary, activate the block for the logic output and set what a 1 or 0 at the block input means and what happens in the event of a block.

Use block	<u>No</u> • Yes
Analysis of the blocking object	<ul style="list-style-type: none"> • <u>At value 1: block</u> <u>At value 0: release</u> • <u>At value 0: block</u> <u>At value 1: release</u>
Blocking object value before first call	<u>0</u> • 1
Output pattern On block	<ul style="list-style-type: none"> • <u>Do not send message</u> • <u>Transmit block value</u> [see above, Output value if blocking active]
On release (with 2 seconds release delay)	[send value for current logic status]

Monitoring

If necessary, activate the input monitoring. Set which inputs are to be monitored, at which intervals the inputs are to be monitored and what value the "monitoring status" should have, if the monitoring period is exceeded without a feedback being given.

Use input monitoring	<u>No</u> • Yes
Input monitoring	<ul style="list-style-type: none"> • 1 • 2 • 3 • 4 • 1 + 2 • 1 + 3 • 1 + 4 • 2 + 3 • 2 + 4 • 3 + 4 • 1 + 2 + 3 • 1 + 2 + 4 • 1 + 3 + 4 • 2 + 3 + 4 • <u>1 + 2 + 3 + 4</u>
Monitoring period	5 s • ... • 2 h; <u>1 min</u>
Output behaviour on exceeding the monitoring time	<ul style="list-style-type: none"> • <u>Do not send message</u> • <u>Send value exceeding</u> [= value of the parameter "monitoring period"]

6.23.2.AND logic connection inputs

Do not use

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
Pressure sensor malfunction ON
Pressure sensor malfunction OFF
GPS malfunction ON
GPS malfunction OFF
Wind Sensor malfunction ON
Wind sensor malfunction OFF
Switching output rain
Switching output rain inverted
Switching output rain 2
Switching output rain 2 inverted
Switching output night
Switching output inverted
Frost alarm active
Frost alarm inactive
Switching output 1 Temperature
Switching output 1 Temperature inverted
Switching output 2 Temperature
Switching output 2 Temperature inverted
Switching output 3 Temperature
Switching output 3 Temperature inverted
Switching output 4 Temperature
Switching output 4 Temperature inverted
Brightness sensor switching output 1
Brightness sensor switching output 1 inverted
Brightness sensor switching output 2
Brightness sensor switching output 2 inverted
Brightness sensor switching output 3
Brightness sensor switching output 3 inverted

Brightness sensor switching output 4
Brightness sensor switching output 4 inverted
Switching output 1 Twilight
Switching output 1 Twilight inverted
Switching output 2 Twilight
Switching output 2 Twilight inverted
Switching output 3 Twilight
Switching output 3 Twilight inverted
Switching output 4 Twilight
Switching output 4 Twilight inverted
Switching output 1 Pressure
Switching output 1 Pressure inverted
Switching output 2 Pressure
Switching output 2 Pressure inverted
Switching output 3 Pressure
Switching output 3 Pressure inverted
Switching output 4 Pressure
Switching output 4 Pressure inverted
Wind switching output 1
Wind switching output 1 inverted
Wind switching output 2
Wind switching output 2 inverted
Wind switching output 3
Wind switching output 3 inverted
Wind switching output 4
Wind switching output 4 inverted
Weekly timer period 1 active
Weekly timer period 1 inactive
Weekly timer period 2 active
Weekly timer period 2 inactive
Weekly timer period 3 active
Weekly timer period 3 inactive
Weekly timer period 4 active
Weekly timer period 4 inactive
Weekly timer period 5 active
Weekly timer period 5 inactive
Weekly timer period 6 active
Weekly timer period 6 inactive
Weekly timer period 7 active
Weekly timer period 7 inactive
Weekly timer period 8 active
Weekly timer period 8 inactive
Weekly timer period 9 active
Weekly timer period 9 inactive
Weekly timer period 10 active
Weekly timer period 10 inactive
Weekly timer period 11 active
Weekly timer period 11 inactive

Weekly timer period 12 active
Weekly timer period 12 inactive
Weekly timer period 13 active
Weekly timer period 13 inactive
Weekly timer period 14 active
Weekly timer period 14 inactive
Weekly timer period 15 active
Weekly timer period 15 inactive
Weekly timer period 16 active
Weekly timer period 16 inactive
Weekly timer period 17 active
Weekly timer period 17 inactive
Weekly timer period 18 active
Weekly timer period 18 inactive
Weekly timer period 19 active
Weekly timer period 19 inactive
Weekly timer period 20 active
Weekly timer period 20 inactive
Weekly timer period 21 active
Weekly timer period 21 inactive
Weekly timer period 22 active
Weekly timer period 22 inactive
Weekly timer period 23 active
Weekly timer period 23 inactive
Weekly timer period 24 active
Weekly timer period 24 inactive
Calendar timer period 1 sequence 1 active
Calendar timer period 1 sequence 1 inactive
Calendar timer period 1 sequence 2 active
Calendar timer period 1 sequence 2 inactive
Calendar timer period 2 sequence 1 active
Calendar timer period 2 sequence 1 inactive
Calendar timer period 2 sequence 2 active
Calendar timer period 2 sequence 2 inactive
Calendar timer period 3 sequence 1 active
Calendar timer period 3 sequence 1 inactive
Calendar timer period 3 sequence 2 active
Calendar timer period 3 sequence 2 inactive
Calendar timer period 4 sequence 1 active
Calendar timer period 4 sequence 1 inactive
Calendar timer period 4 sequence 2 active
Calendar timer period 4 sequence 2 inactive

6.23.3. Connection inputs of the OR logic

The OR logic connection inputs correspond to those of the AND logic. In addition, the following inputs are available for the OR logic:

AND logic output 1
AND logic output 1 inverted
AND logic output 2
AND logic output 2 inverted
AND logic output 3
AND logic output 3 inverted
AND logic output 4
AND logic output 4 inverted
AND logic output 5
AND logic output 5 inverted
AND logic output 6
AND logic output 6 inverted
AND logic output 7
AND logic output 7 inverted
AND logic output 8
AND logic output 8 inverted

