Sewi KNX AQS/TH L-Pr light
Indoor combined sensor

Item numbers 71420 (white), 71422 (jet black)

elsner

Manual

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

Clarification of signs used in this manual

Safety advice.

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

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

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

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

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

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

1. Safety and operating instructions

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

CAUTION!
Live voltage!

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

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

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

2. Description

The **Sensor Sewi KNX AQS/TH L-Pr light** for the KNX bus system captures brightness and the presence of persons in rooms and can use this for light control. In addition, the **Sewi KNX AQS/TH L-Pr light** measures the temperature, humidity (including mixed value calculation) and CO_2 concentration and calculates the dew point.

All measurement 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. In addition, an integrated manipulated variable comparator can compare and output variables that were received via communication objects.

Integrated PI-controllers control ventilation (according CO_2 concentration) and heating/cooling (according to temperature).

Functions:

- **Brightness measurement** with **brightness regulation**
- **Presence of persons is detected**

- Measuring the **CO_2 concentration** of the air, the **temperature** and **air humidity** (relative), each with **mixed value calculation**. The share of internal measurement value and external value can be set as a percentage
- **Dew point** calculation
- **Threshold values** can be adjusted per parameter or via communication objects
- **PI-controller for heating** (one or two-stage) and **cooling** (one or two-stage) according to temperature. Regulation according to separate setpoints or basic setpoint temperature
- **PI controller for ventilation** according CO_2 concentration: Ventilate/Air (one-stage) or Ventilate (one or two-stage)
- **2 AND and 2 OR logic gates**, each with 4 inputs. All switching events as well as 8 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
- **2 multi-function modules** (computers) for changing the input data by calculations, by querying a condition or by converting the data point type
- **2 manipulated variable comparators** to output minimum, maximum or average values. 5 inputs each for values received via communication objects

3. Commissioning

Configuration is made using the KNX software as of ETS 5. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on **www.elsner-elektronik.de**.

Brightness sensor, presence sensor and ventilation slots on the side must not be dirty, painted over or covered.

After the bus 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.

The presence sensor has a start-up phase of approx. 15 seconds, during which the presence of persons is not detected.

After applying the operating voltage, it can take up to 15 minutes until the **CO_2 measured value** is output correctly.

3.1. Addressing the equipment

The equipment is delivered with the bus address 15.15.255. Another address can be programmed using the ETS.
For this purpose there is a button with a control LED on the unit.

4. Transfer protocol

Units:

Temperatures in degrees Celsius
Brightness in Lux
Air humidity in %
CO_2 content in ppm
Variables in %

4.1. List of all communication objects

Abbreviation flags:

C Communication
R Read
W Write
T Transfer
U Update

No	Text	Function	Flags	DPT type	Size
0	Software version	Output	R-CT-	[217.1] DPT_Version	2 Bytes
10	Temperature sensor: malfunction	Output	R-CT-	[1.1] DPT_Switch	1 Bit
11	Temperature sensor: measured value external	Input	-WCT-	[9.1] DPT_Value_Temp	2 Bytes
12	Temperature sensor: measured value	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
13	Temperature sensor: measured value total	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
14	Temperature sensor: measured value min./max. query	Input	-WC--	[1.17] DPT_Trigger	1 Bit
15	Temperature sensor: measured value minimum	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
16	Temperature sensor: measured value maximum	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
17	Temperature sensor: measured value min./max. reset	Input	-WC--	[1.17] DPT_Trigger	1 Bit
18	Temp. thresholdV 1: Absolute value	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
19	Temp. thresholdV 1: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
20	Temp. thresholdV 1: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
21	Temp. thresholdV 1: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes

No	Text	Function	Flags	DPT type	Size
22	Temp. thresholdV 1: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
23	Temp. thresholdV 1: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
24	Temp. thresholdV 2: Absolute value	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
25	Temp. thresholdV 2: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
26	Temp. thresholdV 2: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
27	Temp. thresholdV 2: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
28	Temp. thresholdV 2: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
29	Temp. thresholdV 2: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
30	Temp.control: HVAC mode (priority 1)	Input / Output	RWCT-	[20.102] DPT_HVACMode	1 Byte
31	Temp.control: HVAC mode (priority 2)	Input / Output	RWCT-	[20.102] DPT_HVACMode	1 Byte
32	Temp.control: Mode frost/heat protection activt.	Input	RWCT-	[1.1] DPT_Switch	1 Bit
33	Temp.control: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
34	Temp.control: Current setpoint	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
35	Temp.control: Switch. (0: Heating | 1: Cooling)	Input	-WC--	[1.1] DPT_Switch	1 Bit
36	Temp.control: Setpoint Comfort heating	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
37	Temp.control: Setpoint Comfort heat.(1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
38	Temp.control: Setpoint Comfort cooling	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
39	Temp.control: Setpoint Comfort cool.(1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
40	Temp.control: Basic 16-bit setpoint shift	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
41	Temp.control: Setpoint Standby heating	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
42	Temp.control: Setpoint Standby heat.(1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
43	Temp.control: Setpoint Standby cooling	Input / Output	RWCT-	[9.1] DPT_Value_Temp	2 Bytes

No	Text	Function	Flags	DPT type	Size
44	Temp.control: Setpoint Standby cool. (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
45	Temp.control: Setpoint Eco heating	Input / Output	RWCT-	[9.1] DPT_-Value_Temp	2 Bytes
46	Temp.control: Setpoint Eco heating (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
47	Temp.control: Setpoint Eco cooling	Input / Output	RWCT-	[9.1] DPT_-Value_Temp	2 Bytes
48	Temp.control: Setpoint Eco cooling (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
49	Temp.control: Control variable heating (level 1)	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
50	Temp.control: Control variable heating (level 2)	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
51	Temp.control: Control variable cooling (level 1)	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
52	Temp.control: Control variable cooling (level 2)	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
53	Temperature control: Variable for 4/6-way valve	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
54	Temp.control: Status Heat. level 1 (1=ON|0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
55	Temp.control: Status Heat. level 2 (1=ON|0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
56	Temp.control: Status Cool. level 1 (1=ON|0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
57	Temp.control: Status Cool. level 2 (1=ON|0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
58	Temp.control: Comfort extension status	Input / Output	RWCT-	[1.1] DPT_Switch	1 Bit
59	Temp.control: Comfort Extension time	Input	RWCT-	[7.5] DPT_TimePeriodSec	2 Bytes
60	Humidity sensor: malfunction	Output	R-CT-	[1.1] DPT_Switch	1 Bit
61	Humidity sensor: measured value external	Input	-WCT-	[9.7] DPT_-Value_Humidity	2 Bytes
62	Humidity sensor: measured value	Output	R-CT-	[9.7] DPT_-Value_Humidity	2 Bytes
63	Humidity sensor: measured value total	Output	R-CT-	[9.7] DPT_-Value_Humidity	2 Bytes
64	Humidity sensor: measured value min./max. query	Input	-WC--	[1.17] DPT_Trigger	1 Bit
65	Humidity sensor: measured value minimum	Output	R-CT-	[9.7] DPT_-Value_Humidity	2 Bytes

No	Text	Function	Flags	DPT type	Size
66	Humidity sensor: measured value maximum	Output	R-CT-	[9.7] DPT_Value_Humidity	2 Bytes
67	Humidity sensor: measured value min./max. reset	Input	-WC--	[1.17] DPT_Trigger	1 Bit
68	Humidity thresholdV 1: Absolute value	Input / Output	RWCT-	[9.7] DPT_Value_Humidity	2 Bytes
69	Humidity thresholdV 1: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
70	Humidity thresholdV 1: Delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
71	Humidity thresholdV 1: Delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
72	Humidity thresholdV 1: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
73	Humidity thresholdV 1: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
74	Humidity thresholdV 2: Absolute value	Input / Output	RWCT-	[9.7] DPT_Value_Humidity	2 Bytes
75	Humidity thresholdV 2: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
76	Humidity thresholdV 2: Delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
77	Humidity thresholdV 2: Delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
78	Humidity thresholdV 2: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
79	Humidity thresholdV 2: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
80	Dew point: Measurement	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
81	Cooling medium temp.: Threshold value	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
82	Cooling medium temp.: Actual value	Input	RWCT-	[9.1] DPT_Value_Temp	2 Bytes
83	Cooling medium temp.: Offset change (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
84	Cooling medium temp.: Offset current	Output	R-CT-	[9.1] DPT_Value_Temp	2 Bytes
85	Cooling medium temp.: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
86	Cooling medium temp.: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
87	Cooling medium temp.: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
88	Cooling medium temp.: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
89	CO2 sensor: malfunction	Output	R-CT-	[1.1] DPT_Switch	1 Bit
90	CO2 sensor: Measured valu external	Input	-WCT-	[9.8] DPT_-Value_AirQuality	2 Bytes
91	CO2 sensor: Measured value	Output	R-CT-	[9.8] DPT_-Value_AirQuality	2 Bytes
92	CO2 sensor: Measured value total	Output	R-CT-	[9.8] DPT_-Value_AirQuality	2 Bytes
93	CO2 sensor: Measured value Max. query	Input	-WC--	[1.17] DPT_Trigger	1 Bit
94	CO2 sensor: Maximum measured value	Output	R-CT-	[9.8] DPT_-Value_AirQuality	2 Bytes
95	CO2 sensor: Measured value Max. reset	Input	-WC--	[1.17] DPT_Trigger	1 Bit
96	CO2 threshold value 1: Absolute value	Input / Output	RWCT-	[9.8] DPT_-Value_AirQuality	2 Bytes
97	CO2 threshold value 1: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
98	CO2 threshold value 1: Delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
99	CO2 threshold value 1: Delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
100	CO2 threshold value 1: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
101	CO2 threshold value 1: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
102	CO2 threshold value 2: Absolute value	Input / Output	RWCT-	[9.8] DPT_-Value_AirQuality	2 Bytes
103	CO2 threshold value 2: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
104	CO2 threshold value 2: Delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
105	CO2 threshold value 2: Delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
106	CO2 threshold value 2: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
107	CO2 threshold value 2: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
108	CO2 controller: Block (1: block)	Input	-WC--	[1.2] DPT_Bool	1 Bit
109	CO2 control: Target value	Input / Output	RWCT-	[9.8] DPT_-Value_AirQuality	2 Bytes
110	CO2 control: Target value (1:+ | 0:-)	Input	-WC--	[1.2] DPT_Bool	1 Bit
111	CO2 control: Actuating variable ventilation	Output	R-CT-	[5.1] DPT_Scaling	1 Byte

No	Text	Function	Flags	DPT type	Size
112	CO2 control: Act. variable ventilation 2.stage	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
113	CO2 contr.: Status vent. (1=ON | 0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
114	CO2 contr.: Status vent. level 2 (1=ON | 0=OFF)	Output	R-CT-	[1.1] DPT_Switch	1 Bit
115	Brightness measurement	Output	R-CT-	[9.4] DPT_Value_Lux	2 Bytes
116	Brightness correction factor	Input / Output	RWCT-	[14.5] DPT_Value_Amplitude	4 Bytes
117	Brightness threshold value 1: Absolute value	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
118	Brightness threshold value 1: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
119	Brightness threshold value 1: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
120	Brightness threshold value 1: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
121	Brightness threshold value 1: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
122	Brightness threshold value 1: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
123	Brightness threshold value 2: Absolute value	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
124	Brightness threshold value 2: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
125	Brightness threshold value 2: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
126	Brightness threshold value 2: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
127	Brightness threshold value 2: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
128	Brightness threshold value 2: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
129	Brightness threshold value 3: Absolute value	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
130	Brightness threshold value 3: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
131	Brightness threshold value 3: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
132	Brightness threshold value 3: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes

No	Text	Function	Flags	DPT type	Size
133	Brightness threshold value 3: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
134	Brightness threshold value 3: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
135	Brightness threshold value 4: Absolute value	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
136	Brightness threshold value 4: (1:+ | 0:-)	Input	-WC--	[1.1] DPT_Switch	1 Bit
137	Brightness threshold value 4: Switching delay from 0 to 1	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
138	Brightness threshold value 4: Switching delay from 1 to 0	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
139	Brightness threshold value 4: Switching output	Output	R-CT-	[1.1] DPT_Switch	1 Bit
140	Brightness threshold value 4: Switching output block	Input	-WC--	[1.1] DPT_Switch	1 Bit
141	Motion sensor: Test object	Output	R-CT-	[14] 14.xxx	4 Bytes
142	Motion sensor: Test object release (1 = release)	Input	-WC--	[1.1] DPT_Switch	1 Bit
143	Motion sensor: Slave: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
144	Motion sensor: Slave: Message	Output	R-CT-	[1.1] DPT_Switch	1 Bit
145	Motion sensor: Slave: Cycle reset	Input	-WC--	[5.1] DPT_Scaling	1 Byte
146	Motion sensor: Master 1: Brightn. thresh. val. On	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
147	Motion sensor: Master 1: Brightness switching distance (hysteresis)	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
148	Motion sensor: Master 1: Brightness waiting time	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
149	Motion sensor: Master 1: Output	Output	R-CT-	depending on setting	4 Bytes
150	Motion sensor: Master 1: Switch on delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
151	Motion sensor: Master 1: Switch off delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
152	Motion sensor: Master 1: Slave message	Input	-WC--	[1.1] DPT_Switch	1 Bit
153	Motion sensor: Master 1: Slave cycle reset	Output	--CT-	[5.1] DPT_Scaling	1 Byte
154	Motion sensor: Master 1: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
155	Motion sensor: Master 1: Central Off	Input	-WC--	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
156	Motion sensor: Master 2: Brightn. thresh. val. On	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
157	Motion sensor: Master 2: Brightness switching distance (hysteresis)	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
158	Motion sensor: Master 2: Brightness waiting time	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
159	Motion sensor: Master 2: Output	Output	R-CT-	depending on setting	4 Bytes
160	Motion sensor: Master 2: Switch on delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
161	Motion sensor: Master 2: Switch off delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
162	Motion sensor: Master 2: Slave message	Input	-WC--	[1.1] DPT_Switch	1 Bit
163	Motion sensor: Master 2: Slave cycle reset	Output	--CT-	[5.1] DPT_Scaling	1 Byte
164	Motion sensor: Master 2: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
165	Motion sensor: Master 2: Central Off	Input	-WC--	[1.1] DPT_Switch	1 Bit
166	Motion sensor: Master 3: Brightn. thresh. val. On	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
167	Motion sensor: Master 3: Brightness switching distance (hysteresis)	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
168	Motion sensor: Master 3: Brightness waiting time	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
169	Motion sensor: Master 3: Output	Output	R-CT-	depending on setting	4 Bytes
170	Motion sensor: Master 3: Switch on delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
171	Motion sensor: Master 3: Switch off delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
172	Motion sensor: Master 3: Slave message	Input	-WC--	[1.1] DPT_Switch	1 Bit
173	Motion sensor: Master 3: Slave cycle reset	Output	--CT-	[5.1] DPT_Scaling	1 Byte
174	Motion sensor: Master 3: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
175	Motion sensor: Master 3: Central Off	Input	-WC--	[1.1] DPT_Switch	1 Bit
176	Motion sensor: Master 4: Brightn. thresh. val. On	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
177	Motion sensor: Master 4: Brightness switching distance (hysteresis)	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes

No	Text	Function	Flags	DPT type	Size
178	Motion sensor: Master 4: Brightness waiting time	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
179	Motion sensor: Master 4: Output	Output	R-CT-	depending on setting	4 Bytes
180	Motion sensor: Master 4: Switch on delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
181	Motion sensor: Master 4: Switch off delay	Input	RWC--	[7.5] DPT_TimePeriodSec	2 Bytes
182	Motion sensor: Master 4: Slave message	Input	-WC--	[1.1] DPT_Switch	1 Bit
183	Motion sensor: Master 4: Slave cycle reset	Output	--CT-	[5.1] DPT_Scaling	1 Byte
184	Motion sensor: Master 4: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit
185	Motion sensor: Master 4: Central Off	Input	-WC--	[1.1] DPT_Switch	1 Bit
186	Light controller: Brightness target value	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
187	Light controller: Stop delay	Input / Output	RWCT-	[7.5] DPT_TimePeriodSec	2 Bytes
188	Light controller: Start/Stop (1 = Start|0 = Stop)	Input	-WC--	[1.1] DPT_Switch	1 Bit
189	Light controller: Dimming increment size	Input	RWCT-	[5.1] DPT_Scaling	1 Byte
190	Light controller: Difference actual/target	Input / Output	RWCT-	[9.4] DPT_Value_Lux	2 Bytes
191	Light controller: Reset time	Input / Output	RWCT-	[7.5] DPT_TimePeriodSec	2 Bytes
192	Light controller: Actuating variable	Input / Output	R-CT-	[5.1] DPT_Scaling	1 Byte
193	Light controller: Switching	Output	R-CT-	[1.1] DPT_Switch	1 Bit
194	Light controller: Dimming	Output	R-CT-	[3.7] DPT_Control_Dimming	4 Bit
195	Light controller: Brightness in %	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
196	Light controller: Switching feedback	Input	-WC--	[1.1] DPT_Switch	1 Bit
197	Light controller: Dimming feedback	Input	-WC--	[3.7] DPT_Control_Dimming	4 Bit
198	Light controller: Brightness in % feedback	Input	-WCT-	[5.1] DPT_Scaling	1 Byte
199	Light controller: Interruption waiting time	Input / Output	RWCT-	[7.5] DPT_TimePeriodSec	2 Bytes
200	Light controller: Continuation	Input	-WC--	[1.1] DPT_Switch	1 Bit
201	Light controller: Block (1 = Blocking)	Input	-WC--	[1.1] DPT_Switch	1 Bit

No	Text	Function	Flags	DPT type	Size
202	Actuating variable comparator 1: Input 1	Input	-WC--	[5.1] DPT_Scaling	1 Byte
203	Actuating variable comparator 1: Input 2	Input	-WC--	[5.1] DPT_Scaling	1 Byte
204	Actuating variable comparator 1: Input 3	Input	-WC--	[5.1] DPT_Scaling	1 Byte
205	Actuating variable comparator 1: Output	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
206	Actuating variable comparator 1: Block (1: block)	Output	-WC--	[1.2] DPT_Bool	1 Bit
207	Actuating variable comparator 2: Input 1	Input	-WC--	[5.1] DPT_Scaling	1 Byte
208	Actuating variable comparator 2: Input 2	Input	-WC--	[5.1] DPT_Scaling	1 Byte
209	Actuating variable comparator 2: Input 3	Input	-WC--	[5.1] DPT_Scaling	1 Byte
210	Actuating variable comparator 2: Output	Output	R-CT-	[5.1] DPT_Scaling	1 Byte
211	Actuating variable comparator 2: Block (1: block)	Output	-WC--	[1.2] DPT_Bool	1 Bit
212	Computer 1: Input I1	Input	RWCT-	depending on setting	4 Bytes
213	Computer 1: Input I2	Input	RWCT-	depending on setting	4 Bytes
214	Computer 1: Input I3	Input	RWCT-	depending on setting	4 Bytes
215	Computer 1: Output O1	Output	R-CT-	depending on setting	4 Bytes
216	Computer 1: Output O2	Output	R-CT-	depending on setting	4 Bytes
217	Computer 1: Condition text	Output	R-CT-	[16.0] DPT_String_ASCII	14 Bytes
218	Computer 1: Monitoring status	Output	R-CT-	[1.1] DPT_Switch	1 Bit
219	Computer 1: Block (1: block)	Input	-WC--	[1.1] DPT_Switch	1 Bit
220	Computer 2: Input I1	Input	RWCT-	depending on setting	4 Bytes
221	Computer 2: Input I2	Input	RWCT-	depending on setting	4 Bytes
222	Computer 2: Input I3	Input	RWCT-	depending on setting	4 Bytes
223	Computer 2: Output O1	Output	R-CT-	depending on setting	4 Bytes

No	Text	Function	Flags	DPT type	Size
224	Computer 2: Output O2	Output	R-CT-	depending on setting	4 Bytes
225	Computer 2: Condition text	Output	R-CT-	[16.0] DPT_String_ASCII	14 Bytes
226	Computer 2: Monitoring status	Output	R-CT-	[1.1] DPT_Switch	1 Bit
227	Computer 2: Block (1: block)	Input	-WC--	[1.1] DPT_Switch	1 Bit
228	Logic input 1	Input	-WC--	[1.2] DPT_Bool	1 Bit
229	Logic input 2	Input	-WC--	[1.2] DPT_Bool	1 Bit
230	Logic input 3	Input	-WC--	[1.2] DPT_Bool	1 Bit
231	Logic input 4	Input	-WC--	[1.2] DPT_Bool	1 Bit
232	Logic input 5	Input	-WC--	[1.2] DPT_Bool	1 Bit
233	Logic input 6	Input	-WC--	[1.2] DPT_Bool	1 Bit
234	Logic input 7	Input	-WC--	[1.2] DPT_Bool	1 Bit
235	Logic input 8	Input	-WC--	[1.2] DPT_Bool	1 Bit
236	AND logic 1: 1 bit switching output	Output	R-CT-	[1.2] DPT_Bool	1 Bit
237	AND logic 1: 8 bit output A	Output	R-CT-	depending on setting	1 Byte
238	AND logic 1: 8 bit output B	Output	R-CT-	depending on setting	1 Byte
239	AND logic 1: Block	Input	-WC--	[1.1] DPT_Switch	1 Bit
240	AND logic 2: 1 bit switching output	Output	R-CT-	[1.2] DPT_Bool	1 Bit
241	AND logic 2: 8 bit output A	Output	R-CT-	depending on setting	1 Byte
242	AND logic 2: 8 bit output B	Output	R-CT-	depending on setting	1 Byte
243	AND logic 2: Block	Input	-WC--	[1.1] DPT_Switch	1 Bit
244	OR logic 1: 1 bit switching output	Output	R-CT-	[1.2] DPT_Bool	1 Bit
245	OR logic 1: 8 bit output A	Output	R-CT-	depending on setting	1 Byte
246	OR logic 1: 8 bit output B	Output	R-CT-	depending on setting	1 Byte
247	OR logic 1: Block	Input	-WC--	[1.1] DPT_Switch	1 Bit
248	OR logic 2: 1 bit switching output	Output	R-CT-	[1.2] DPT_Bool	1 Bit
249	OR logic 2: 8 bit output A	Output	R-CT-	depending on setting	1 Byte
250	OR logic 2: 8 bit output B	Output	R-CT-	depending on setting	1 Byte
251	OR logic 2: Block	Input	-WC--	[1.1] DPT_Switch	1 Bit

5. Parameter setting

5.1. Behaviour on power failure/ restoration of power

Behaviour following a failure of the bus power supply:

The device sends nothing.

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

The device sends all outputs according to their send behaviour set in the parameters. Delays established in the "General settings" parameter block are taken into account.

5.2. General settings

Set basic characteristics for the data transfer.

Send delay after power-up and programming for:	
Measured values	5 s • ... • 300 s
Threshold values and switching outputs	5 s • ... • 300 s
Controller objects	5 s • ... • 300 s
Comparator and computer objects	5 s • ... • 300 s
Logic objects	5 s • ... • 300 s
Maximum telegram rate	• 1 message per second • ... • 10 messages per second • ... • 20 messages per second

5.3. Temperature Measurement

Select, whether a **malfunction object** is to be sent if the sensor is faulty.

Use malfunction object	No • Yes

When **measuring temperature**, the self-heating of the device is considered by the electronics. The heating is compensated for in the device.

Use **Offsets** to adjust the readings to be sent.
Permanent measurement variations can be corrected in this way.

Offset in 0.1°C	-50…50; 0

The unit can calculate a **mixed value** from its own reading and an external value. Set the mixed value calculation if desired. If an external portion is used, all of the following settings (threshold values, etc.) are related to the overall reading.

Use external measured value	No • Yes
Ext. Reading proportion of the total reading	5% • 10% • ... • 50% • ... • 100%
Sending pattern for internal and total measured value	• never • periodically • on change • on change and periodically
At and above change of *(if sent on change)*	0.1°C • 0.2°C • 0.5°C • ... • 5.0°C
Send cycle *(if sent periodically)*	5 s • 10 s • ... • 2 h

The **minimum and maximum readings** can be saved and sent to the bus. Use the "Reset temperature min/max. value" objects to reset the values to the current readings. The values are not retained after a reset.

Use minimum and maximum value	No • Yes

5.4. Temperature threshold values

Activate the required temperature threshold values. The menus for setting the threshold values are displayed.

Use threshold value 1/2	Yes • No

5.4.1. Threshold value 1, 2

Threshold value

Set, in which cases **threshold values and delay times** received via object are to be retained. The parameter is only taken into consideration if the setting via object is activated below. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication (setting via objects is ignored).

Maintain the	
threshold values and delays received via communication objects	• never • after power supply restoration • after power supply restoration and programming

Set the threshold value directly in the application program using parameters, or define them via the bus using a communication object.

Threshold value setting via parameter:

Set the threshold values and switching distance (hysteresis) directly.

Threshold value setting via	**Parameter** • Communication objects
Threshold value in 0.1°C	-300 ... 800; 200

Threshold value setting via a communication object:

Define, how the threshold value is to be received from the bus. Basically, a new value can be received, or simply a command to increase or decrease.

During initial commissioning, a threshold value must be defined, which will be valid until the first communication with a new threshold value. For units which have already been taken into service, the last communicated threshold value can be used. Basically, a temperature range is given, in which the threshold value can be changed (object value limit).

A set threshold value will be retained until a new value or a change is transferred. The current value is saved, so that it is retained in the event of a power supply failure and will be available once the power supply is restored.

Threshold value setting via	Parameter • **Communication objects**
Start threshold value in 0.1°C valid until first communication	-300 ... 800; 200
Object value limit (min) in 0.1°C	-300…800
Object value limit (max) in 0.1°C	-300…800
Type of threshold value change	Absolute value • Increase/decrease
Increment *(upon increase/decrease change)*	0.1°C • ... • 5°C

Set the **switching distance** independent of the type of threshold value specification.

Switching distance setting	in % • absolute
Switching distance in 0.1°	0...1100; 50
Switching distance in % of the threshold value	0 ... 50; 20

Switching output

Set the behaviour of the switching output when a threshold value is exceeded/undercut. The output switching delay can be set using objects or directly as a parameter.

When the following conditions apply, the output is (TV = Threshold value) (SD = Switching distance)	• TV above = 1 | TV - SD below = 0 • TV above = 0 | TV - SD below = 1 • TV below = 1 |TV + SD above = 0 • TV below = 0 |TV + SD above = 1
Delays can be set via objects (in seconds)	No • Yes

Switching delay from 0 to 1 *(If delay can be set via objects: valid until 1st communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching delay from 1 to 0 *(If delay can be set via objects: valid until 1st communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching output sends	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle *(only if sending periodically is selected)*	5 s • 10 s • 30 s... • 2 h

Block

The switching output can be blocked using an object.

Use switching output block	No • Yes

If the block is activated, define specifications here for the behaviour of the output when blocked.

Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before 1st communication	0 • 1
Behaviour of the switching output	
On block	• Do not send message • send 0 • send 1
On 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 • Send switching output status
Switching output sends on change to 1	• Do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	• Do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status

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

5.5. Temperature PI control

Activate the control if you want to use it.

Use control	No • Yes

General control

Set, in which cases **setpoint values and extension time** received via object are to be retained. The parameter is only taken into consideration if the setting via object is activated below. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the 1st communication (setting via objects is ignored).

Maintain the	
Target values and extension time received via communication objects	• never • after power supply restoration • after power supply restoration and programming

For an adequate regulation of the ambient temperature, comfort, standby, eco and building protection modes may be used.
Comfort when present,
Standby during short absences,
Eco as a night-time mode and
Frost/heat protection (building protection) e. g. with the window open.

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

The **mode** may be switched with two 8 bit objects of different priority. Objects
„... HVAC mode (Prio 2)“ for switching in everyday operation and
„... HVAC mode (Prio 1)“ for central switching with higher priority.
The objects are coded as follows:
0 = Auto
1 = Comfort
2 = Standby
3 = Eco
4 = Building Protection

Alternatively, you can use three objects, with one object switching between eco and standby mode and the two others activating comfort mode and frost/heat protection

mode respectively. The comfort object blocks the eco/standby object, and the frost/ heat protection object has the highest priority. Objects
„... Mode (1: Eco, 0: Standby)“,
„... comfort activation mode" and
„... frost/heat protection activation mode"

Switch mode via	• two 8 Bit objects (HVAC Modes) • three 1 bit objects

Select the **mode to be activated after reset** (e.g. power failure, reset of the line via the bus) (Default).
Then configure a temperature control **block** via the blocking object.

Mode after reset	• Comfort • Standby • Eco • Building protection
Behaviour of the blocking object with value	• 1 = Block | 0 = release • 0 = block | 1 = release
Value of the blocking object after reset	0 • 1

Specify when the current **control variables** of the controller are to be **sent** to the bus. Periodic sending is safer, in case a message does not reach a recipient. You may also set up periodical monitoring by the actuator with this setting.

Send control variable	• on change • on change and periodically
from change (in % absolute)	1...10; 2
Cycle *(if sent periodically)*	5 s • ... • 5 min • ... • 2 h

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

Send status objects	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle *(if sent periodically)*	5 s • ... • 5 min • ... • 2 h

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

Type of control	• Single level heating • Dual-level heating • Single-level cooling • Dual-level cooling • Single-level heating + single-level cooling • Dual-level heating + single-level cooling • Dual-level heating + dual-level cooling

General setpoint values

You may enter separate setpoint values for each mode or use the comfort setpoint as a basic value.
If you are using the control for both heating *and* cooling, you may also select the setting "separately with switching object". Systems used for cooling in summer and for heating in winter can thus be switched from one to the other.
If no switching object is selected, the actual temperature determines whether heating or cooling takes place. If the actual value is between the heating and cooling setpoint values, the existing operating mode is retained. If heating was previously used, the system remains in heating mode and continues to aim for this set point value. Only when the cooling setpoint is reached does the operating mode switch to cooling.
If cooling has been used so far, the system remains in cooling mode and continues to aim for this set point value. Only when the heating setpoint is reached does the operating mode switch to heating.
If the actual temperature is above the cooling set point value, cooling takes place; if it is below the heating set point value, heating takes place. The difference between the heating set point value and the cooling set point value or the dead zone should be at least 1 °C. This prevents the control from switching too often between heating and cooling in the event of minor temperature fluctuations.
If you are using the basic value, only the deviation from the comfort setpoint value is listed for the other modes (e.g, 2°C less for standby mode).

Setting the setpoint values	• with separate setpoint values with Switching object • with separate setpoint values without Switching object • with comfort setpoint as a basis with Switching object • with comfort setpoint as a basis without Switching object
Behaviour of the switching object at value *(with switching object)*	• 0 = Heating | 1 = Cooling • 1 = Heating | 0 = Cooling
Value of the switching object after reset *(with switching object)*	0 • 1

The **increment** for the setpoint changes is predefined. Whether the change only remains temporarily active (not saved) or is also retained after power supply restoration

(and programming), is specified in the first section of "General control". This also applies to a comfort extension.

Increment for setpoint changes (in 0.1 °C)	1... 50; 10

The control may be reset to comfort mode from eco mode, which is used as night mode, via the comfort extension. This allows the user to maintain the comfort setpoint value for a longer time, e.g. when having guests. The duration of this comfort extension period is set. After the comfort extension period expires, the system returns to eco mode.

Comfort extension time in seconds (can only be activated from eco mode)	1...36000; 3600

Comfort Setpoint

Comfort mode is usually used for daytime mode when people are present. A starting value is defined for the comfort setpoint as well as a temperature range in which the setpoint value may be modified.

Starting heating/cooling setpoint (in 0.1 °C) valid until 1st communication *(not upon saving the setpoint value after programming)*	-300...800; 210

If setpoint values are entered separately:

Min. object value heating/cooling (in 0.1 °C)	-300...800; 160
Max. object value heating/cooling (in 0.1 °C)	-300...800; 280

If the comfort setpoint value is used as a basis:

If the comfort setpoint value is used as a basis, the reduction/increment of the value is set.

Minimum base setpoint (in 0.1°C)	-300...800; 160
Maximum base setpoint (in 0.1°C)	-300...800; 280
Reduction by up to (in 0.1°C)	0...200; 50
Increase by up to (in 0.1°C)	0...200; 50

If the comfort setpoint is used as the basis without a switching object, a dead zone is specified for the control mode "heating *and* cooling" to avoid direct switching from heating to cooling.

Dead zone between heating and cooling *(only if both heating AND cooling are used)*	1...100; 50

Standby setpoint

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

If setpoint values are entered separately:

A starting setpoint value is defined as well as a temperature range in which the setpoint value may be changed.

Starting heating/cooling setpoint (in 0.1 °C) valid until 1st communication	-300…800; 180
Min. object value heating/cooling (in 0.1 °C)	-300…800; 160
Max. object value heating/cooling (in 0.1 °C)	-300…800; 280

If the comfort setpoint value is used as a basis:

If the comfort setpoint value is used as a basis, the reduction/increment of the value is set.

Reduce heating setpoint (in 0.1°C) *(for heating)*	0…200; 30
Increase cooling setpoint (in 0.1°C) *(for cooling)*	0…200; 30

Eco setpoint

Eco mode is usually used for night mode.

If setpoint values are entered separately:

A starting setpoint value is defined as well as a temperature range in which the setpoint value may be changed.

Starting heating/cooling setpoint (in 0.1 °C) valid until 1st communication	-300…800; 160
Min. object value heating/cooling (in 0.1 °C)	-300…800; 160
Max. object value heating/cooling (in 0.1 °C)	-300…800; 280

If the comfort setpoint value is used as a basis:

If the comfort setpoint value is used as a basis, the reduction/increment of the value is set.

Reduce heating setpoint (in 0.1°C) *(for heating)*	0…200; 50
Increase cooling setpoint (in 0.1°C) *(for cooling)*	0…200; 60

Setpoint values for frost/heat protection (building protection)

The building protection mode is for example used as long as windows are opened for ventilation. Setpoints for frost protection (heating) and heat protection (cooling) are determined which may not be modified from outside (no access via operating devices

etc.). The building protection mode may be activated with delay, which allows you to leave the building before the controls switch to frost/heat protection mode.

Setpoint frost protection (in 0.1°C)	-300…800; 70
Activation delay	less than • 5 s • ... • 5 min • ... • 2 h
Setpoint heat protection (in 0.1°C)	-300…800; 350
Activation delay	less than • 5 s • ... • 5 min • ... • 2 h

General control variables

This setting appears for the control types "Heating *and* Cooling" only. Here, you can decide whether to use a common control variable for heating and cooling. If the 2nd level has a common control variable, you also determine the control mode of the 2nd level here.

For heating and cooling	• separate control variables are used • common control variables are used for Level 1 • common control variables are used for Level 2 • common control variable are used for Level 1+2
Use control variable for 4/6-way valve *(only for common control variables in level 1)*	No • Yes
Control type *(for level 2 only)*	• 2-point-control • PI control
Control variable of the 2nd Level is on *(only for level 2 with 2 point controlling)*	• 1 bit object • 8 bit object

When using the control variable for a 4/6 way valve, the following applies:
0%...100% heating = 66%...100% control variable
OFF = 50% control variable
0%...100% cooling = 33%...0% control variable

5.5.1. Heating control level 1/2

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

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

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

In level 2, the setpoint difference between the two levels must also be specified, i.e. below which setpoint deviation the second level is added.

Setpoint difference between 1st and 2nd level (in 0.1°C) *(for level 2)*	0...100; 40
Control type *(for level 2, no common control variables)*	• 2-point-control • PI control
Control variable is a *(for level 2 with 2-point controlling, no common control variables)*	• 1 bit object • 8 bit object

PI control with control parameters:

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

Control type	**• PI control**
Setting of the controller by	**• Controller parameter** • specified applications

Specify the deviation from the setpoint value at which the maximum control variable value is reached, i.e. the point at which maximum heating power is activated.
The reset time shows how quickly the controller responds to deviations from the setpoint value. In case of a short reset time, the control responds with a fast increase of the control variable. In case of a long reset time, the control responds somewhat less urgently and needs longer until the necessary control variable for the setpoint value deviation is reached.
You should set the time appropriate to the heating system at this point (observe manufacturer's instructions).

Maximum control variable is reached at setpoint/actual difference of (in °C)	0...5
Reset time (in min.)	1...255; 30

Now specify what should be sent when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *(if a value is sent)*	0...100

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

PI control with predetermined application:

This setting provides fixed parameters for frequent applications.

Control type	**• PI control**
Setting of the controller by	• Controller parameter **• specified applications**

Application	• Warm water heating • Floor heating • Convection unit • Electric heating
Maximum control variable is reached at setpoint/actual difference of (in °C)	Warm water heating: 5 Floor heating: 5 Convection unit: 4 Electric heating: 4
Reset time (in min.)	Warm water heating: 150 Floor heating: 240 Convection unit: 90 Electric heating: 100

Now specify what should be sent when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *(if a value is sent)*	0...100

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

2-point-control (only level 2):

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

Control type *(is determined at a higher level for common control variables)*	• **2-point-control**

Enter the Switching distance that prevents frequent on/off switching of temperatures in the threshold range.

Switching distance (in 0.1°C)	0...100; 20

If separate control variables are used, select whether the control variable of the 2nd level is a 1 bit object (on/off) or an 8 bit object (on with percentage/off).

Control variable is a	• 1 bit object • 8 bit object
Value (in %) *(for 8 bit object)*	0...100

Now specify what should be sent when the control is blocked. Set a value greater 0 (=OFF) to receive a basic heating level, e.g. for floor heating. On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *only if a value is sent*	0...100

5.5.2. Cooling control level 1/2

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

In the 1st level, cooling is controlled by a PI control in which either control parameters can be entered or predetermined applications can be selected.

In the 2nd level (therefore only for 2-level cooling), cooling is controlled via a PI or a 2-point-control.
In level 2, the setpoint deviation between the two levels must also be specified, i.e. above which setpoint value deviation the second level is added.

Setpoint difference between 1st and 2nd level (in 0.1°C) *(for level 2)*	0...100; 40
Control type *(for level 2, no common control variables)*	• 2-point-control • PI control
Control variable is a *(for level 2 with 2-point controlling, no common control variables)*	• 1 bit object • 8 bit object

PI control with control parameters:

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

Control type	• **PI control**
Setting of the controller by	• **Controller parameter** • specified applications

Specify the deviation from the setpoint value which reaches maximum variable value, i.e. the point at which maximum cooling power is activated.
The reset time shows how quickly the controller responds to deviations from the setpoint value. In case of a short reset time, the control responds with a fast increase of the control variable. In case of a long reset time, the control responds somewhat less urgently and needs longer until the necessary control variable for the setpoint value deviation is reached. You should set the time appropriate to the cooling system at this point (observe manufacturer's instructions).

Maximum control variable is reached at setpoint/actual difference of (in °C)	0...5
Reset time (in min.)	1...255; 30

Now specify what should be sent when the control is blocked.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *(if a value is sent)*	0...100

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

PI control with predetermined application:

This setting provides fixed parameters for a cooling ceiling

Control type	• **PI control**
Setting of the controller by	• Controller parameter • **specified applications**
Application	• Cooling ceiling
Maximum control variable is reached at setpoint/actual difference of (in °C)	Cooling ceiling: 5
Reset time (in min.)	Cooling ceiling: 30

Now specify what should be sent when the control is blocked.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *(if a value is sent)*	0...100

2-point-control (only level 2):

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

Control type *is determined at a higher level for common variables*	• **2-point-control**

Enter the switching distance that prevents frequent on/off switching of temperatures in the threshold range.

Switching distance (in 0.1°C)	0...100; 20

If separate control variables are used, select whether the control variable of the 2nd level is a 1 bit object (on/off) or an 8 bit object (on with percentage/off).

Control variable is a	• 1 bit object • 8 bit object
Value (in %) *(for 8 bit object)*	0...100

Now specify what should be sent when the control is blocked.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not be sent • send a specific value
Value (in %) *(if a value is sent)*	0...100

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

5.6. Humidity Measurement

Select, whether a **malfunction object** is to be sent if the sensor is faulty.

Use malfunction object	No • Yes

Use **Offsets** to adjust the readings to be sent.

Offset in 0.1% RH	-100…100; 0

The unit can calculate a **mixed value** from its own reading and an external value. Set the mixed value calculation if desired. If an external portion is used, all of the following settings (threshold values, etc.) are related to the overall reading.

Use external measured value	No • Yes
Ext. Reading proportion of the total reading	5% • 10% • ... • 50% • ... • 100%
Sending pattern for internal and total measured value	• never • periodically • on change • on change and periodically
At and above change of *(if sent on change)*	0.1% RH • 0.2% RH • 0.5% RH • 1.0% RH • ... • 20.0% RH
Send cycle *(if sent periodically)*	5 s • 10 s • ... • 2 h

The **minimum and maximum readings** can be saved and sent to the bus. Use the "Reset humidity min/max. value" objects to reset the values to the current readings. The values are not retained after a reset.

Use minimum and maximum value	No • Yes

5.7. Humidity threshold values

Activate the required air humidity threshold values. The menus for setting the threshold values are displayed.

Use threshold value 1/2	Yes • No

5.7.1. Threshold value 1, 2

Threshold value

Set, in which cases **threshold values and delay times** received via objects are to be retained. The parameter is only taken into consideration if the setting via object is activated below. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication (setting via objects is ignored).

Maintain the	
threshold values and delays received via communication objects	• never • after power supply restoration • after power supply restoration and programming

Set the threshold value directly in the application program using parameters, or define them via the bus using a communication object.

Threshold value setting using parameter:

Set the threshold values and switching distance (hysteresis) directly.

Threshold value setting using	**Parameter** • Communication objects
Threshold value in 0.1% RH	1 ... 1000; 650

Threshold value setting using a communication object:

Define, how the threshold value is to be received from the bus. Basically, a new value can be received, or simply a command to increase or decrease.

During initial commissioning, a threshold value must be defined, which will be valid until the first communication with a new threshold value. For units which have already been taken into service, the last communicated threshold value can be used. Basically, a humidity range is specified in which the threshold value can be changed (object value limit).

A set threshold value will be retained until a new value or a change is transferred. The current value is saved, so that it is retained in the event of a power supply failure and will be available once the power supply is restored.

Threshold value setting using	Parameter • **Communication objects**
Starting threshold value in 0.1% RH valid until first communication	1 ... 1000; 650
Object value limit (min.) in 0.1%RH	1...1000
Object value limit (max.) in 0.1%RH	1...1000
Type of threshold value change	Absolute value • Increase/decrease
Increment *(upon increase/decrease change)*	0.1% RH • ... • 2.0% RH • ... • 20.0% RH

Set the **switching distance** independent of the type of threshold value specification.

Switching distance setting	in % • absolute
Switching distance in 0.1% RH	0...1000; 100
Switching distance in % (relative to the threshold value)	0 ... 50; 20

Switching output

Set the behaviour of the switching output when a threshold value is exceeded/undercut. The output switching delay can be set using objects or directly as a parameter.

When the following conditions apply, the output is (TV = Threshold value) (SD = Switching distance)	• TV above = 1 | TV - SD below = 0 • TV above = 0 | TV - SD below = 1 • TV below = 1 |TV + SD above = 0 • TV below = 0 |TV + SD above = 1
Delays can be set via objects (in seconds)	No • Yes
Switching delay from 0 to 1 *(If delay can be set via objects: valid until 1st communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching delay from 1 to 0 *(If delay can be set via objects: valid until 1st communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching output sends	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle *(is only sent if periodically is selected)*	5 s • 10 s • 30 s... • 2 h

Block

The switching output can be blocked using an object.

Use switching output block	No • Yes

If the block is activated, define specifications here for the behaviour of the output when blocked.

Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before first communication	0 • 1
Behaviour of the switching output	
On block	• Do not send message • send 0 • send 1

On 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 • Send switching output status
Switching output sends on change to 1	• Do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	• Do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status
Switching output sends on change to 1 and periodically	if switching output = 1 ➔ send 1
Switching output sends on change to 0 and periodically	if switching output = 0 ➔ send 0

5.8. Dewpoint measurement

The **Sensor Sewi KNX AQS/TH L-Pr light** calculates the dewpoint temperature and can output the value to the bus.

Sending pattern	• never • periodically • on change • on change and periodically
At and above change of *(if sent on change)*	0.1°C • 0.2°C • 0.5°C • 1.0°C • 2.0°C • 5.0°C
Send cycle *(if sent periodically)*	5 s • 10 s • 30 s • 1 min • ... • 2 h

Activate the monitoring of the coolant temperature if required. The menus for setting the monitoring are displayed.

Use monitoring of the coolant temperature	No • Yes

5.8.1. Cooling medium temp. monitoring

A threshold value can be set for the temperature of the coolant, which is based on the current dewpoint temperature (offset/deviation). The switching output of the coolant temperature monitoring system can provide a warning prior to any build-up of condensation in the system, and/or activate appropriate countermeasures.

Threshold value

Threshold value = dewpoint temperature + offset

Set, in which cases **offset** received via object is to be retained. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication (setting via objects is ignored).

Maintain the	
offset received via communication object	• never • after power supply restoration • after power supply restoration and programming
.	

During initial commissioning, an **offset** must be defined which is valid until the first communication of a new offset. For units which have already been taken into service, the last communicated offset can be used.

A set offset will be retained until a new value or a change is transferred. The current value is saved, so that it is retained in the event of a power supply failure and will be available once the power supply is restored.

Start offset in °C valid until first communication	0...200; 30
Increment for offset change	0.1°C • 0.2°C • 0.3°C • 0.4°C • 0.5°C • 1°C • 2°C • 3°C • 4°C • 5°C
Switching distance setting	in % • absolute
Switching distance of the threshold value in % *(for setting in %)*	0 ... 50; 20
Threshold value switching distance in 0.1°C increments *(at absolute setting)*	0 ... 1000; 50
Threshold value sends	• never • periodically • on change • on change and periodically
At and above change of *(if sent on change)*	0.1°C • 0.2°C • 0.5°C • 1.0°C • 2.0°C • 5.0°C
Send cycle *(if sent periodically)*	5 s • 10 s • 30 s • 1 min • ... • 2 h

Switching output

The output switching delay can be set using objects or directly as a parameter.

When the following conditions apply, the output is (TV = Threshold value) (SD = Switching distance)	• TV above = 1 | TV - SD below = 0 • TV above = 0 | TV - SD below = 1 • TV below = 1 |TV + SD above = 0 • TV below = 0 |TV + SD above = 1
Delays can be set via objects (in seconds)	No • Yes

Switching delay from 0 to 1 *for setting via objects:* *valid until 1st communication*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching delay from 1 to 0 *for setting via objects:* *valid until 1st communication*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching output sends	• 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 *(is only sent if periodically is selected)*	5 s • 10 s • 30 s... • 2 h

Blocking

The switching output can be blocked using an object. Define specifications here for the behaviour of the output when blocked.

Use switching output block	No • Yes
Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before first communication	0 • 1
Behaviour of the switching output	
On block	• Do not send message • send 0 • send 1
On 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 • Send switching output status
Switching output sends on change to 1	• Do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	• Do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status
Switching output sends on change to 1 and periodically	if switching output = 1 ➔ send 1
Switching output sends on change to 0 and periodically	if switching output = 0 ➔ send 0

5.9. CO2 Measurement

Select, whether a **malfunction object** is to be sent if the sensor is faulty.

Use malfunction object	No • Yes

The CO_2 sensor uses the last 7 minimum CO_2 values for automatic sensor calibration. These 7 minimum values must be at least 18 hours apart and within the range of 400 to 450 ppm (fresh air).

Use automatic sensor calibration	No • Yes

Use **Offsets** to adjust the readings to be sent.

Offset in ppm	-100…100; 0

The unit can calculate a **mixed value** from its own reading and an external value. Set the mixed value calculation if desired. If an external portion is used, all of the following settings (threshold values, etc.) are related to the overall reading.

Use external measured value	No • Yes
Ext. Reading proportion of the total reading	5% • 10% • ... • 50% • ... • 100%
Sending pattern for internal and total measured value	• never • periodically • on change • on change and periodically
At and above change of (relative to the last measured value) *(if sent on change)*	2% • 5% • ... • 50%
Send cycle *(if sent periodically)*	5 s • 10 s • ... • 2 h

The **maximum reading** can be saved and sent to the bus. Using the "Reset CO2 maximum value" objects, the value can be reset to the current reading. The value is not retained after a reset.

Use maximum value	No • Yes

5.10. CO2 threshold values

Activate the required CO2 threshold value. The menus for setting the threshold values are displayed.

Use threshold value 1/2	Yes • No

300 ppm ... 1000 ppm: fresh air
1000 ppm ... 2000 ppm: used air

1000 ppm = 0.1 %

5.10.1. Threshold value 1, 2

Threshold value

Set, in which cases **threshold values and delay times** received via object are to be retained. The parameter is only taken into consideration if the setting via object is activated below. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication (setting via objects is ignored).

Maintain the	
threshold values and delays received via communication objects	• never • after power supply restoration • after power supply restoration and programming

Set the threshold value directly in the application program using parameters, or define them via the bus using a communication object.

Threshold value setting using parameters:

Set the threshold values and switching distance (hysteresis) directly.

Threshold value setting using	**Parameter** • Communication objects
Threshold value in ppm	0 ... 2000; 1200

Threshold value setting using a communication object:

Define, how the threshold value will be received from the bus. Basically, a new value can be received, or simply a command to increase or decrease.

During initial commissioning, a threshold value must be defined, which will be valid until the first communication of a new threshold value. For units which have already been taken into service, the last communicated threshold value can be used. Basically, a range is specified in which the threshold value can be changed (object value limit).

A set threshold value will be retained until a new value or a change is transferred. The current value is saved, so that it is retained in the event of a power supply failure and will be available once the power supply is restored.

Threshold value setting using	Parameter • **Communication objects**
Start threshold value in ppm valid until first communication	0 ... 2000; 1200
Limitation of object value (min) in ppm	10...2000
Limitation of object value (max) in ppm	1...2000; 1000
Type of threshold value change	Absolute value • Increase/decrease
Increment in ppm *(upon increase/decrease change)*	1 • 2 • 5 • 10 • 20 • ... • 200

Set the **switching distance** independent of the type of threshold value specification.

Switching distance setting	in % • absolute
Switching distance in ppm	0...2000; 500
Switching distance in % of the threshold value	0 ... 50; 20

Switching output

Set the behaviour of the switching output when a threshold value is exceeded/undercut. The output switching delay can be set using objects or directly as a parameter.

When the following conditions apply, the output is (TV = Threshold value) (SD = Switching distance)	• TV above = 1 | TV - SD below = 0 • TV above = 0 | TV - SD below = 1 • TV below = 1 |TV + SD above = 0 • TV below = 0 |TV + SD above = 1
Delays can be set via objects (in seconds)	No • Yes
Switching delay from 0 to 1 *(If delay can be set via objects: valid until first communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching delay from 1 to 0 *(If delay can be set via objects: valid until first communication)*	None • 1 s • 2 s • 5 s • 10 s • ... • 2 h
Switching output sends	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle *(is only sent if periodically is selected)*	5 s • 10 s • 30 s... • 2 h

Block

The switching output can be blocked using an object.

Use switching output block	No • Yes

If the block is activated, define specifications here for the behaviour of the output when blocked.

Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before first communication	0 • 1
Behaviour of the switching output	
On block	• Do not send message • send 0 • send 1

On 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 • Send switching output status
Switching output sends on change to 1	• Do not send message • if switching output = 1 ➔ send 1
Switching output sends on change to 0	• Do not send message • if switching output = 0 ➔ send 0
Switching output sends on change and periodically	Send switching output status
Switching output sends on change to 1 and periodically	if switching output = 1 ➔ send 1
Switching output sends on change to 0 and periodically	if switching output = 0 ➔ send 0

5.11. CO2 PI-control

If you activate air quality control, you can use the following settings to define control type, setpoint values, and ventilation.

Use control	**Yes** • No

General control

The **Sensor Sewi KNX AQS/TH L-Pr light** can be used to control one or two-stage ventilation.

Type of control	• One-stage ventilation • Two-stage ventilation

Configure a block for the ventilation control using the blocking object.

Behaviour of the blocking object with value	• 1 = Block | 0 = release • 0 = block | 1 = release
Blocking object value before first communication	0 • 1

Specify when the current control variables are to be sent to the bus. Periodic sending is safer, in case a message does not reach a recipient. You may also set up periodic monitoring using an actuator with this setting.

Send control variable	• on change • on change and periodically
at and above change of (in ppm)	1...20; 2
Cycle (*if sent periodically)*	5 s • ... • 10 s • ... • 2 h

The status object shows the current status of the output variable (0 = OFF, >0 = ON) and can for example be used for visualisation.

Send status object(s)	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle (*if sent periodically)*	5 s • 10 s • ... • 2 h

Controller setpoint

Enter, how the setpoint value will be received from the bus. Basically, a new value can be received, or simply a command to increase or decrease.

During initial commissioning, a setpoint value must be defined which is valid until the first communication of a new setpoint value. For units which have already been taken into service, the last communicated setpoint value can be used. Basically, an air humidity range is given in which the setpoint value can be changed (object value limit).

A set setpoint value will be retained until a new value or a change is transferred. The current value is saved, so that it is retained in the event of a power supply failure and will be available once the power supply is restored.

Maintain the threshold value received via communication object	• not • after power supply restoration • after power supply restoration and programming
Start setpoint value in ppm valid until first communication *(not upon saving the setpoint value after programming)*	400... 2000; 800
Object value limit (min) in ppm	400...2000; 400
Object value limit (max) in ppm	400...2000; 1500
Type of threshold value change	Absolute value • Increase/decrease
Increment in ppm *(upon increase/decrease change)*	1 • 2 • 5 • ... • 20 • ... • 100 • 200

Ventilation control

Depending on the control mode, one and/or two setting sections for the ventilation stages are displayed.

For two-stage ventilation, the setpoint value difference between the two stages must be defined, i.e. the setpoint value which, when exceeded, triggers the switch to the 2nd level.

Target value difference between 1st and 2nd level in ppm *(for level 2 only)*	100...2000; 400

Determine the deviation from the setpoint value at which the maximum variable value is reached, i.e. the point at which maximum output is used.
The reset time shows how quickly the controller responds to deviations from the setpoint value. In case of a short reset time, the control responds with a fast increase of the control variable. In case of a long reset time, the control responds somewhat less urgently and needs longer until the necessary control variable for the setpoint value deviation is reached.
You should set the time appropriate to the ventilation system at this point (follow the manufacturer's instructions).

Maximum control variable is reached at setpoint value/actual difference of (in ppm)	100...2000
Reset time in minutes	1...255; 30

Now specify what should be sent when the control is blocked.
On release, the control variable follows the rule again.

When blocked, the control variable shall	• not send anything • send a value
Value in % (*if a value is sent)*	0...100

5.12. Brightness Measurement

The **Sensor Sewi KNX AQS/TH L-Pr light** detects the brightness in rooms, for example for controlling lights.

Set the **sending pattern** for the measured brightness.

Sending pattern	• never • periodically • on change • on change and periodically
at and above change in % *(if sent on change)*	1 ... 100; 20
Send cycle *(if sent periodically)*	5 s ... 2 h

The brightness reading can be **corrected** in order to compensate for a dull or bright point of installation for the sensor.

Use reading correction	No • Yes

Set, in which cases the correction factor received via object is to be retained. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication (setting via objects is ignored).
Specify the starting correction factor.

Maintain the	
correction factor received via communication object	• never • after power supply restoration • after power supply restoration and programming
Start correction factor in 0.001 valid till first communication	1 ... 10000; 1000

Examples:
For a factor of 1.234 the parameter value is 1234.
For a factor of 0.789 the parameter value is 789.
For a factor of 1.2 and a reading of 1000 Lux the transmitted value is 1200 Lux.

5.13. Brightness threshold values

Activate the required brightness threshold value. The menus for setting the threshold values are displayed.

Threshold value 1/2/3/4	No • Yes

5.13.1. Threshold value 1/2/3/4

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	• 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	Parameter • Communications object

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

Threshold value in kLux	1 ... 5000; 200

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 ... 5000; 200
Object value limit (min.) in Lux	1 ... 5000
Object value limit (max.) in Lux	1 ... 5000
Type of threshold change	Absolute value • Increase/decrease
Increment in Lux *(upon increase/decrease change)*	1 • 2 • 5 • 10 • 20 • 50 • 100 • 200

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

Switching distance setting	in % • absolute
Switching distance in % of the threshold value *(for setting in %)*	0 ... 100; 50
Switching distance in Lux *(for absolute setting)*	0 ... 5000; 200

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)	• GW above = 1 | GW - Hyst. below = 0 • 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)	No • Yes
Delay from 0 to 1	none • 1 s ... 2 h
Delay from 1 to 0	none • 1 s ... 2 h
Switching output sends	• on change • on change to 1 • on change to 0 • on change and periodically • on change to 1 and periodically • on change to 0 and periodically
Cycle *(if sent periodically)*	5 s ... 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	No • Yes
Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before first call	0 • 1
Action when locking	• Do not send message • 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

5.14. Motion detector

The motion detector detects movement by means of temperature differences. Please note that the "no movement" message is only sent to the bus after a 5 second delay. After connecting the operating voltage and after a reset, it takes 15 seconds until the sensor is ready for operation.

Activate the **test object** if you would like to test the motion detection while commissioning.

With an active test object, you can enter the settings for analysis of the release object, the value prior to the first communication, and the type and value of the test object.

Use test object	No • Yes
If test object is used:	
Release object analysis	• at value 1: release | at value 0: block • at value 0: release | at value 1: block
Value prior to first communication	0 • 1

Type of test object	• 1 bit • 1 byte (0...255) • 1 byte (0%...100%) • 1 byte (0°...360°) • 1 byte 0...63) scenario call-up • 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
Test object value for movement	e.g. 0 • 1 [depending on the type of test object]
Test object value without movement	e.g. 0 • 1 [depending on the type of test object]

Select whether the motion detector is operated as **master or slave**.
For a master device, the reactions to motion detection are filed in the master settings 1 to 4. The master can thus control up to four different lamps, scenarios etc. and, as an option, also observe incoming motion messages from slave devices.
A slave device sends a motion message to the master via the bus.

Mode	Slave • Master

Motion detector as slave:

Activate the slave in order to use it.

Use slave	No • **Yes**

When a motion is detected, the device periodically sends a 1 to the master via the bus.

Information on setting the slave sending cycle and the cycle reset can be found in chapter *Align communication between master and slave*, Seite 50.

5.14.1. Slave

Set the **sending cycle** shorter than the master's switch-off delay.

Sending cycle in the event of movement (in seconds)	1...240; 2

Set the **object type and value** for the cycle reset input for the slave in the same way as for the cycle reset output for the master.

Cycle reset object type	• 1 bit • 1 byte (0%...100%)
Cycle reset at value	0 • 1 and/or 0...100; 1

The slave can be **blocked** via the bus.

Use block	No • **Yes**
Analysis of the blocking object	• at value 1: block | at value 0: release • at value 0: block | at value 1: release
Value prior to first communication	0 • 1

5.14.2. Master 1/2/3/4

If the device is set as a master, the additional master settings 1 to 4 will appear. This enables the **Sensor Sewi KNX AQS/TH L-Pr light** to perform four different control functions for motion detection. Activate the master in order to use it.

Use master 1/2/3/4	No • Yes

Set, in which cases **threshold values and delay times** received via object are to be retained. The parameter is only taken into consideration if the setting via object is activated below. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the 1st communication (setting via objects is ignored).

Maintain the	
threshold values and delays received via communication objects	• never • after power supply restoration • after power supply restoration and programming

Select, whether motion is to be detected **constantly or brightness dependent**.

Motion detection	constantly • brightness dependent

Settings for brightness dependent motion detection:

The **brightness dependent motion detection** can be used via separate threshold values for switch-on and switch-off or dependent on daylight. The separate threshold values are ideal for controlling the light in rooms which are only illuminated by artificial light. The daylight dependent control is ideal for rooms with daylight and artificial light.

Motion detection	**brightness dependent**
Type of brightness dependency	• separate switch-on and switch-off threshold values • daylight dependent

For **daylight dependent motion detection with separate switch-on and switch-off threshold values** activate, as required, the objects for setting the threshold values. Then specify the switch-on and switch-off values (brightness range). The switch-on value is the value, below which the room should be lit in the event of move-

ment. The switch-off value should be higher than the brightness value of the artificially lit room.
If the indoor light level is above the switch on limit value, but below the switch off limit value and the motion is still ongoing, or if another motion is detected before the end of the switch-off delay, then the switch-off delay time period starts over. Only when the light level exceeds the switch-off limit value is the switch-off delay no longer extended.
If the master output has detected the value for the end of the motion, then the light level must be below the switch-on limit value before any other motions are detected.

Type of brightness dependency	**• separate switch-on and switch-off values**
Threshold values can be set via objects	No • Yes
Switch on sensor below Lux	1...5000; 200
Switch off sensor below Lux	1...5000; 500

For the **daylight dependent motion detection** activate, as required, the objects for setting the threshold values/switching distance (hysteresis) and waiting period. Then specify the switch-on value. This is the value, below which the room should be lit in the event of movement.

The switch-off value is derived from the brightness measurement that is performed by the sensor at the end of the waiting period. Set the waiting period such that after it all lamps are set to the final brightness. The switching distance is added to the measured brightness value. If the room brightness later exceeds this total value because the room is illuminated by daylight, the motion control is switched off.
If the master switches on a light, it measures the indoor light level after the end of the wait time.
If the light level is above the switch-on limit value but below the measured light level + switching distance, and the motion is still ongoing or another motion is detected before the end of the switch-off delay, then the switch-off delay is restarted.
Only when the light level exceeds the light level + switching distance is the switch-off delay no longer extended.
If the master output has detected the end of the motion, then the light level must drop below the switch-on limit value for motions to be detected again.

Type of brightness dependency	**• Daylight dependent**
Threshold values and switching distance can be set via objects	No • Yes
Waiting period can be set via objects	No • Yes
Switch on sensor below Lux	1...5000; 200

Switch off sensor, at the earliest after a waiting period of seconds	0...600; 5
after motion detection and above measured brightness plus switching distance in Lux	1...5000; 200

Settings for all types of motion detection:

The following settings can be made, independent of the motion detection type, i.e. for "constant" and "brightness dependent" motion recognition.

Define the **output type and value**. As a result of the different types, switchable lights (1 bit), dimmer (1 Byte 0-100%), scenarios (1 Byte 0...63 scenario call-up) and other functions can be controlled.

Output type	• 1 bit • 1 byte (0...255) • 1 byte (0%...100%) • 1 byte (0°...360°) • 1 byte (0...63) scenario call-up • 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 in the event of motion	e.g. 0 • 1 [depending on the output type]
Output value without motion	e.g. 0 • 1 [depending on the output type]
Output value when blocked	e.g. 0 • 1 [depending on the output type]

Select whether delays can be set via objects and specify the **switching delays**. By setting a **blocking time** after switch-off, you prevent sensors from recognising a switched-off lamp in their detection zone as a temperature change, and sending a motion message.
The blocking time begins once the master output has transmitted the value for "end of motion", e.g. the command "light off" or a central off command is received. During this time period, the master detects no motion, and the motion detection of the slaves is

not recorded. After the end of the time period, the master transmits the slave cycle reset telegram.
Application example:
Depending on the installation situation and lamps, it is possible that a detector will detect the thermal change in the lamp when the light is switched off by the master as a motion. Without a blocking time, the light would be switched on again immediately.

Delays can be set via objects (in seconds)	No • Yes
Switch on delay (for setting via objects: valid until 1st communication)	0 s • 5 s • 10 s • ... 2 h *(for daylight dependent motion detection: fixed value 0s)*
Switch off delay (for setting via objects: valid until 1st communication)	0 s • 5 s • 10 s • ... 2 h
Blocking time for motion detection after switch off delay in seconds	0...600 ; 2

Set the master's output **sending pattern**.

Sending pattern	• on change • on change to movement • on change to no movement • on change and periodically • on change to movement and periodically • on change to no movement periodically
Cycle *(if sent periodically)*	1s • 5 s • ... 2 h

In addition, you can refer to a **slave signal**, i.e. a signal from an additional motion detector, for controlling purposes.

Use slave signal	No • Yes

The slave device periodically sends a 1 to the bus, as long as a motion is detected. The master receives this at the input object "master: slave message" and evaluates the slave message as an own sensor message.

Furthermore, the master has the possibility of triggering a reset of the slave sending cycle.

Information on setting the slave sending cycle and the cycle reset can be found in chapter *Align communication between master and slave*, Seite 50.

Set the **object type and value** for the master's slave cycle reset output in the same way, as the cycle reset input for the slave.

Slave cycle reset object type	• 1 bit • 1 byte (0%...100%)
Cycle reset at value	0 • 1 and/or 0...100; 1

The master can be **blocked** via the bus.

Use block	No • **Yes**
Analysis of the blocking object	• at value 1: block | at value 0: release • at value 0: block | at value 1: release
Value prior to first communication	0 • 1
Output pattern	
On block	• do not send anything • Send value
For release	• as for transmission pattern • send current value immediately

5.14.3. Align communication between master and slave

Sending cycle slave - switch-off delay master

Set the slave's **sending cycle** shorter than the master's switch-off delay. Thereby it is ensured that the master does not perform a switch-off action, while the slave is still detecting a motion.

Slave cycle reset

The cycle reset for the slave is required, if a master switch action by the "master: central off" object was triggered.

When the master performs a switch-off action, it simultaneously sends a message to the bus via the "master: slave cycle reset". . This message can be received by the slave via the "slave: cycle reset" in order to *immediately* send a message to the bus in the event of a motion detection. The master receives the motion message without having to wait for the next slave transmission cycle.

Please note that object type and value for the slave's cycle reset input and the master's cycle reset output must be set the same.

Application Example:

A person steps into a corridor, the master recognises this movement and switches on the corridor lighting. When leaving the corridor, the person wants to switch off the light using a switch.

However, in the meantime a second person has entered the corridor who is detected by a slave. This person would be in darkness and would have to wait for the slave's next transmission cycle before the light would be switched on again.

To prevent this, the switch command is connected to the "master: central off" object. As a result, the master sends a cycle reset command to the slave if the light is switched off manually. In the present example, the master would immediately switch the light back on.

5.15. Light control

For light control, the sensor detects the brightness in the room. Activate the light control.

Use control	No • Yes

Set, in which cases the **data** received via object for setpoint value, setpoint value-actual difference, dimming increment and times are to be retained. Please note that the setting "After power supply restoration and programming" should not be used for the initial start-up, as the factory settings are always used until the first communication.

Maintain the	
data received via object for setpoint, setpoint-actual difference, dimming increment and times	• never • after power supply restoration • after power supply restoration and programming

Set the **setpoint value for the brightness in the room** and specify whether, besides the dimming information defined below, a switching object should also be sent.

Setpoint value in Lux	0...60000; 500
Send switching object	No • Yes

Specify, whether the light control **is activated by presence of persons / movement and/or by a start/stop object**. For a regulation by presence of persons / movement, the device's internal motion detector is analysed.

Set the object evaluation and the object value prior to the first communication. Define, for how many seconds the regulation is to continue to run after the end of the presence of persons / movement.
At the end of the regulation, either "nothing" (status remains unchanged), an on or off command (via the activated switching object) or a dim value can be sent.

Regulation starts on	• movement • reception of a start/stop-object • reception of a start/stop-object or movement
Regulation stops on	• movement • reception of a start/stop-object • reception of a start/stop-object or movement
Object evaluation	• 1 = start | 0 = stop • 0 = start | 1 = stop

Object value prior to initial communication	0 • 1
Stop delay in seconds after the movement has ended	0...1800; 120
Reaction to stop	• send nothing • send off command • send on command • send value
Value in %	0...100

Set, at which deviation from the setpoint value a **dim command is to be sent**. Specify the **dimming increment** and the **repetition cycle** for the dim command.
Define, up to which **response value** the dim actuator sends a brighter or darker command. On the one hand, this defines the range of use for the lamp, on the other hand, once the minimum or maximum value has been reached, no unnecessary messages are sent to the bus.

Send the dim command, if	• the actual value deviates from the setpoint value by more than X% •the actual value deviates from the setpoint value by more than X Lux
Target / actual difference in % *(for a deviation in %)*	1...100; 20
Target / actual difference in Lux *(for a deviation in Lux)*	1...2500; 100
Dimmer increments	100.00% • 50.00% • 25.00% • 12.5% • 6.25% • 3.13% • 1.56%
Repetition of the dim command in seconds	1...600; 6
Dim brighter with response value in %	1...100
Dim darker with response value in %	0...99

The light regulation can be **interrupted during switching or dimming** by response objects, i.e. nothing else is transmitted via the dim-output. This results in the manual light operation having priority.

Set, which objects will trigger interruption and when the regulation is to be continued.

Use interruptions	No • **Yes**
Interrupt regulation when	
Reception from response switching object	No • Yes
Reception from response dimming object	No • Yes
Continue regulation	• after a waiting period • at movement after waiting period • at object reception after waiting period • at object reception or after waiting period • at movement after object reception • at object reception or movement after waiting period

Waiting period in seconds	5...72000 *(Standard value depending on the setting of "continue regulation")*
Object value	0 • 1 • 0 or 1

Note: If the criteria for the continuation of the regulation are fulfilled, the regulation, however, has just been stopped by an object or is blocked, then the end of the interruption has no effect on the behaviour of the light.

The light regulation can be **blocked** via the bus. In contrast to the interruption, when blocking, a switching command or brightness value can be sent. Upon release, the output behaviour follows the rule.

Use block	No • **Yes**
Analysis of the blocking object	• at value 1: block | at value 0: release • at value 0: block | at value 1: release
Value prior to initial communication	0 • 1
Output pattern	
On block	• send nothing • send off command • send on command • send value

5.16. Variable comparator

The integrated variable comparators can output maximum, minimum and average values.

Use comparator 1/2	No • Yes

5.16.1. Control variable comparator 1/2

Determine what the control variable comparator should output, and activate the input objects to be used. Transmission patterns and blocks can also be set.

Output delivers	• Maximum value • Minimum value • Average value
Use input 1 / 2 / 3	No • Yes
Output sends	• on change of output • on change of output and periodically • when receiving an input object • when receiving an input object and periodically
Send cycle *(if sent periodically)*	5 s • 10 s • 30 s • ... • 5 min • ... • 2 h
At and above change of *(if sent on change)*	1% • 2% • 5% • 10% • 20% • 25% • 50%

Analysis of the blocking object	• at value 1: block | at value 0: release • at value 0: block | at value 1: release
Blocking object value before 1st communication	0 • 1
Behaviour of the switching output	
On block	• do not send message • Send value
Sent value in %	0 ... 100
output sends on release (with 2 seconds release delay)	• the current value • the current value after receipt of an object

5.17. 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 1/2	No • Yes

5.17.1. Computer 1/2

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	• 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)	• Prerequisite: E1 = E2 • Prerequisite: E1 > E2 • Prerequisite: E1 >= E2 • Prerequisite: E1 < E2 • Prerequisite: E1 <= E2 • Prerequisite: E1 - E2 >= E3 • Prerequisite: E2 - E1 >= E3 • Prerequisite: E1 - E2 amount >= E3 • Calculation: E1 + E2 • Calculation: E1 - E2 • Calculation: E2 - E1 • Calculation: E1 - E2 Amount • Calculation: Output 1 = E1 × X + Y | Output 2 = E2 × X + Y | • Transformation: General
Tolerance for comparison *(in the case of prerequisite E1 = E2)*	0 ... 4,294,967,295
Input type	[Selection options depending on the function] • 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	• 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 *(if applicable output value A1 / A2)*	

if the condition is met	0 [Input range depending on the type of output]
if the condition is not met	0 [Input range depending on the type of output]
if the monitoring time period is exceeded	0 [Input range depending on the type of output]
if blocked	0 [Input range depending on the type of output]

Set the output send pattern.

Output sends	• on change • 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)*	• on each change • on change to condition met • on change to condition not met
Send cycle *(if sent periodically)*	5 s ... 2 h; 10 s

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	none • 1 s • ... • 2 h
Send delay in the event of change to the condition is not met	none • 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	0 [Input range depending on the type of output]
if blocked	0 [Input range depending on the type of output]

Set the output send pattern.

Output sends	• on change • 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; 10 s

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	1.00 [free input]
Y	0.00 [free input]
Formula for output A2: A2 = E2 × X + Y	
X	1.00 [free input]
Y	0.00 [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	No • Yes
Monitoring of	• E1 • 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; 1 min
Value of the object "monitoring status" if period is exceeded	0 • 1

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	No • Yes
Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release

Value before first call	0 • 1
Output pattern On block	• do not send anything • send value
On release	• as send pattern [see above] • send current value immediately

5.18. Logic

The device has 8 logic inputs, two AND and two OR logic gates.

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

Use logic inputs	Yes • No
Object value prior to first call for:	
- Logic input 1	0 • 1
- Logic input ...	0 • 1
- Logic input 8	0 • 1

Activate the required logic outputs.

AND logic

AND logic 1	not active • active
AND logic 2	not active • active

OR logic

OR logic 1	not active • active
OR logic 2	not active • active

5.18.1. AND logic 1-2 and OR logic outputs 1-2

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 out put should send if logic = 1 and = 0.

1. / 2. / 3. / 4. Input	• do not use - Logic inputs 1...16 - Logic inputs 1...16 inverted • all switching events that the device provides (see *Connection inputs of the AND/OR logic*)
Output type	• a 1-Bit-object • 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	1 • 0
Output value if logic = 0	1 • 0
Output value If block is active	1 • 0
Output value if monitoring period is exceeded	1 • 0

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

Object type	• Value (0…255) • Percent (0…100%) • Angle (0…360°) • Scene call-up (0…127)
Output value object A if logic = 1	0 … 255 / 100% / 360° / 127; 1
Output value object B if logic = 1	0 … 255 / 100% / 360° / 127; 1
Output value object A if logic = 0	0 … 255 / 100% / 360° / 127; 0
Output value object B if logic = 0	0 … 255 / 100% / 360° / 127; 0
Output value object A if block is active	0 … 255 / 100% / 360° / 127; 0
Output value object B if block is active	0 … 255 / 100% / 360° / 127; 0
Output value object A if monitoring period is exceeded	0 … 255 / 100% / 360° / 127; 0
Output value object B if monitoring period is exceeded	0 … 255 / 100% / 360° / 127; 0

Set the output send pattern.

Send pattern	• on change of logic • on change of logic to 1 • on change of logic to 0 • on change of logic and periodically • on change of logic to 1 and periodically • on change of logic to 0 and periodically • on change of logic+object receipt • on change of logic+object receipt and periodically
Send cycle *(if sent periodically)*	5 s • 10 s • ... • 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	No • Yes
Analysis of the blocking object	• At value 1: block | At value 0: release • At value 0: block | At value 1: release
Blocking object value before first call	0 • 1
Output pattern On block	• Do not send message • Transmit block value [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	No • Yes
Input monitoring	• 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 • 1 + 2 + 3 + 4
Monitoring period	5 s • ... • 2 h; 1 min
Output behaviour on exceeding the monitoring time	• Do not send message • Send value exceeding [= value of the parameter "monitoring period"]

5.18.2.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
Temperature sensor malfunction ON
Temperature sensor malfunction OFF
Humidity sensor malfunction ON
Humidity sensor malfunction OFF
CO2 sensor malfunction ON
CO2 sensor malfunction OFF
Switching output 1 Temperature
Switching output 1 Temperature inverted
Switching output 2 Temperature
Switching output 2 Temperature inverted
Comfort temperature controller active
Comfort temperature controller inactive
Standby temperature controller active
Standby temperature controller inactive
Eco temperature controller active
Eco temperature controller inactive
Frost protection temperature controller active
Frost protection temperature controller inactive
Heating 1 temperature controller active
Heating 1 temperature controller inactive
Heating 2 temperature controller active
Heating 2 temperature controller inactive
Cooling 1 temperature controller active
Cooling 1 temperature controller inactive
Cooling 2 temperature controller active
Cooling 2 temperature controller inactive
Switching output 1 Humidity
Switching output 1 Humidity inverted
Switching output 2 Humidity
Switching output 2 Humidity inverted
Switching output coolant temperature
Switching output coolant temperature inverted
Switching output 1 CO2
Switching output 1 CO2 inverted
Switching output 2 CO2
Switching output 2 CO2 inverted
CO2 controller ventilation 1 active
CO2 controller ventilation 1 inactive
CO2 controller ventilation 2 active
CO2 controller ventilation 2 inactive
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
Motion detector test output
Motion detector test output inverted
Motion detector slave output
Motion detector slave output inverted
Motion detector master 1 output
Motion detector master 1 output inverted
Motion detector master 2 output
Motion detector master 2 output inverted
Motion detector master 3 output
Motion detector master 3 output inverted
Motion detector master 4 output
Motion detector master 4 output inverted

5.18.3. 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:

Switching output AND logic 1
Switching output AND logic 1 inverted
Switching output AND logic 2
Switching output AND logic 2 inverted

Questions about the product?

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

We need the following information to process your service request:

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

For questions about KNX functions:

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

elsner

Elsner Elektronik GmbH Control and Automation Engineering

Sohlengrund 16
75395 Ostelsheim
Germany

Phone +49 (0) 70 33 / 30 945-0 info@elsner-elektronik.de
Fax +49 (0) 70 33 / 30 945-20 www.elsner-elektronik.de