Objects

Objects are generated automatically depending on which function is parametrised. These objects can be connected with group addresses from a group address pool with drag and drop. It is also possible to create new group addresses. Alongside the group address pool there is another pool for virtual connections, which can be used to connect objects internally without KNX functionality.

The maximum number of objects is 200.

The datapoint ID (DPT-ID) is determined with reference to the document "Datapoint Types" in the KONNEX Standard, Volume 3, Part 7, Chapter 2, Version v1.0.

Object description Logic operations controller (software module)					
Object name:	Function:	Туре:	DPT ID:	Flag:	
Input (max 8/logic gate)	Logic gate input	1 bit	1.001	K,S	
Output	Logic gate output	1 bit	1.001	K,Ü	

Object description Analogue input (14) (software module)				
Object name:	Function:	Туре:	DPT ID:	Flag:
Alarm object 1 byte (if alarm byte = send)	Analogue input	1 byte	6.020	K,Ü
Alarm object 1 bit <i>(if</i> alarm bit = send)	Analogue input	1 bit	1.001	K,Ü
Measured value (if object type = 16 bit)	Analogue input	2 byte	9.0xx	K,S
Measured value (if object type = 8 bit)	Analogue input	1 byte	5.010	K,S
Limit value 1	Analogue input	1 bit	1.001	K,Ü
Limit value 2	Analogue input	1 bit	1.001	K,Ü
External limit value 1 <i>(if object type =</i> <i>16 bit)</i>	Analogue input	2 byte	9.0xx	K,S
External limit value 1 <i>(if object type =</i> 8 bit)	Analogue input	1 byte	5.001	K,S
External limit value 2 <i>(if object type =</i> 16 bit)	Analogue input	2 byte	9.0xx	K,S

External limit value Analogue 1 byte 2 (*if object type* = input 8 *bit*)

5.001

K,S

Object description

Combractisor	(Sub-bus mouule	,		
Object name:	Function:	Туре:	DPT ID:	Flag:
Alarm object 1 byte (if alarm byte = send)	Combi-sensor	1 byte	6.020	K,Ü
Error1 wind sensor (poss. frosted up) (if wind signal=monitor)	Combi-sensor	1 bit	1.001	K,Ü
Error2 wind signal (if wind signal=monitor)	Combi-sensor	1 bit	1.001	K,Ü
Connection error combi-sensor (if connection to combi-sensor = monitor)	Combi-sensor	1 bit	1.001	K,Ü
Twilight				
Twilight measured value	Combi-sensor	2 byte	9.004	K,Ü
Limit value 1 twilight	Combi-sensor	1 bit	1.001	K,Ü
Limit value 2 twilight	Combi-sensor	1 bit	1.001	K,Ü
External limit value 1 twilight <i>(if object type = 16 bit)</i>	Combi-sensor	2 byte	9.0xx	K,S
External limit value 1 twilight <i>(if object type = 8 bit)</i>	Combi-sensor	1 byte	5.001	K,S
External limit value 2 twilight <i>(if object type = 16 bit)</i>	Combi-sensor	2 byte	9.0xx	K,S
External limit value 2 twilight <i>(if object type = 8 bit)</i>	Combi-sensor	1 byte	5.001	K,S
Sun east				
Measured value sun east	Combi-sensor	2 byte	9.004	K,Ü
Limit value 1 sun east	Combi-sensor	1 bit	1.001	K,Ü
Limit value 2 sun east	Combi-sensor	1 bit	1.001	K,Ü
External limit value 1 sun east (<i>if</i> <i>object type = 16</i> <i>bit</i>)	Combi-sensor	2 byte	9.0xx	K,S
External limit value 1 sun east (<i>if</i> <i>object type = 8</i> <i>bit</i>)	Combi-sensor	1 byte	5.001	K,S

External limit value 2 sun east (if object type = 16 bit)	Combi-sensor	2 byte	9.0xx	K,S
External limit value 2 sun east (if object type = 8 bit)	Combi-sensor	1 byte	5.001	K,S
Sun south				
Measured value sun south	Combi-sensor	2 byte	9.004	K,Ü
Limit value 1 sun south	Combi-sensor	1 bit	1.001	K,Ü
Limit value 2 sun south	Combi-sensor	1 bit	1.001	K,Ü
External limit value 1 sun south <i>(if object type = 16 bit)</i>	Combi-sensor	2 byte	9.0xx	K,S
External limit value 1 sun south <i>(if object type = 8 bit)</i>	Combi-sensor	1 byte	5.001	K,S
External limit value 2 sun south (if object type = 16 bit)	Combi-sensor	2 byte	9.0xx	K,S
External limit value 2 sun south (if object type = 8 bit)	Combi-sensor	1 byte	5.001	K,S
Sun west				
Measured value sun west	Combi-sensor	2 byte	9.004	K,Ü
Measured value sun west Limit value 1 sun west	Combi-sensor Combi-sensor	2 byte 1 bit	9.004 1.001	K,Ü K,Ü
Measured value sun west Limit value 1 sun west Limit value 2 sun west	Combi-sensor Combi-sensor Combi-sensor	2 byte 1 bit 1 bit	9.004 1.001 1.001	к,Ü к,Ü к,Ü
Measured value sun west Limit value 1 sun west Limit value 2 sun west External limit value 1 sun west <i>(if</i> <i>object type = 16</i> <i>bit)</i>	Combi-sensor Combi-sensor Combi-sensor Combi-sensor	2 byte 1 bit 1 bit 2 byte	9.004 1.001 1.001 9.0xx	K,Ü K,Ü K,S
Measured value sun west Limit value 1 sun west Limit value 2 sun west External limit value 1 sun west (<i>if</i> <i>object type = 16</i> <i>bit</i>) External limit value 1 sun west(<i>if</i> <i>object type = 8</i> <i>bit</i>)	Combi-sensor Combi-sensor Combi-sensor Combi-sensor	2 byte 1 bit 1 bit 2 byte 1 byte	9.004 1.001 1.001 9.0xx 5.001	К,Ü К,Ü Қ,S
Measured value sun west Limit value 1 sun west Limit value 2 sun west External limit value 1 sun west (<i>if</i> <i>object type</i> = 16 <i>bit</i>) External limit value 1 sun west(<i>if</i> <i>object type</i> = 8 <i>bit</i>) External limit value 2 sun west (<i>if</i> <i>object type</i> = 16 <i>bit</i>)	Combi-sensor Combi-sensor Combi-sensor Combi-sensor	2 byte 1 bit 1 bit 2 byte 1 byte 2 byte	9.004 1.001 1.001 9.0xx 5.001 9.0xx	к,Ü К,Ü К,S Қ,S

Wind				
Measured value wind	Combi-sensor	2 byte	9.005	K,Ü
Limit value 1 wind	Combi-sensor	1 bit	1.001	K,Ü
Limit value 2 wind	Combi-sensor	1 bit	1.001	K,Ü
External limit value 1 wind <i>(if object type = 16 bit)</i>	Combi-sensor	2 byte	9.0xx	K,S
External limit value 1 wind <i>(if object type = 8 bit)</i>	Combi-sensor	1 byte	5.001	K,S
External limit value 2 wind <i>(if object type = 16 bit)</i>	Combi-sensor	2 byte	9.0xx	K,S
External limit value 2 wind <i>(if object type = 8 bit)</i>	Combi-sensor	1 byte	5.001	K,S
Precipitation				
Precipitation	Combi-sensor	1 bit	1.001	K,Ü
Shade				
Shade facade 1 (if DCF77/slat pos. = enabled)	Combi-sensor	1 bit	1.008	K,Ü
Shade facade 2 (if DCF77/slat pos. = enabled)	Combi-sensor	1 bit	1.008	K,Ü
Shade facade 3 (if DCF77/slat pos. = enabled)	Combi-sensor	1 bit	1.008	K,Ü
Shade facade 4 (if DCF77/slat pos. = enabled)	Combi-sensor	1 bit	1.008	K,Ü
Angle of opening facade 1 (if DCF77/slat pos. = enabled + angle of opening to sun = external)	Combi-sensor	1 byte	5.003	K,Ü
Angle of opening facade 2 (if DCF77/slat pos. = enabled + angle of opening to sun = external)	Combi-sensor	1 byte	5.003	K,Ü
Angle of opening facade 3 (if DCF77/slat pos. = enabled + angle of opening to sun = external)	Combi-sensor	1 byte	5.003	K,Ü
Angle of opening facade 4 (if DCF77/slat pos. = enabled + angle of opening to sun = external)	Combi-sensor	1 byte	5.003	K,Ü

Slat position (if DCF77/slat pos. = enabled + absolute slat position = percent)	Combi-sensor	1 byte	5.001	K,Ü
Slat position (if DCF77/slat pos. = enabled + absolute slat position = degree)	Combi-sensor	1 byte	5.003	K,Ü
Time (if DCF77/ slat pos. = enabled)	Combi-sensor – DCF77	3 byte	10.001	K,Ü
Date (if DCF77/ slat pos. = enabled)	Combi-sensor – DCF77	3 byte	11.001	K,Ü
Request date/time (if DCF77/slat pos. = enabled)	Combi-sensor – DCF77	1 bit	1.001	K,S

The date and time object flag must always be set so that it cannot be read out! This prevents invalid values from being read out.

Replies to date/time requests may take up to one minute.

Object descrip Analogue inp	otion ut module (e2i m	odule)		
Object name:	Function:	Type:	DPT ID:	Flag:
Alarm object 1 byte (if alarm byte = send)	Analogue input	1 byte	6.020	K,Ü
Alarm object 1 bit (if alarm bit = send)	Analogue input	1 bit	1.001	K,Ü
Measured value (if object type = 16 bit)	Analogue input	2 byte	9.0xx	K,S
Measured value (if object type = 8 bit)	Analogue input	1 byte	5.010	K,S
Limit value 1	Analogue input	1 bit	1.001	K,Ü
Limit value 2	Analogue input	1 bit	1.001	K,Ü
External limit value 1 <i>(if object type =</i> <i>16 bit)</i>	Analogue input	2 byte	9.0xx	K,S
External limit value 1 <i>(if object type =</i> <i>8 bit)</i>	Analogue input	1 byte	5.001	K,S
External limit value 2 (if object type = 16 bit)	Analogue input	2 byte	9.0xx	K,S
External limit value 2 <i>(if object type = 8 bit)</i>	Analogue input	1 byte	5.001	K,S



角 Disable modules

The weather station has up to 16 disable modules. However, the exact number of disable modules available depends on how many KNX objects are available. Add modules by selecting the Disable module menu item / right click or press the speed button.

Each disable module is allocated an input object, an output object and a disable object. The input can be separated from the output by the disable object. So if the disable module is blocked, the input value is not written to the output.

i The number of objects in the weather station including all connected modules may not exceed 200

Disable module

Description

A description may be added to the disable module (and is only visible in the application), e.g. for documentation purposes.

Behaviour of disable object

Used to set the disable behaviour Here you can choose between

- Disable in case of "0" telegram
- Disable in case of "1" telegram

as the object value for which the output will be disabled.

Disable behaviour on initialisation

Used to set the disable behaviour on initialisation. Here you can choose between

- Disabled
- Enabled

as starting behaviour.

Input/output object type

Used to set the input and output object types. Here you can choose between

- EIS1 (switch -1 bit)
- EIS5 (value 2 byte)
- EIS6 (rel. value 1 byte)

as object types.

Logic operation controller

The number of available logic gates and the number of inputs is highly dependent on how many KNX objects are available. Add by selecting the Logic operation controller menu item / right click or press the speed button. Each logic gate can be parameterised as OR, AND or exclusive-OR. Up to 8 inputs can be allocated to each logic gate. Add by selecting the Edit logic gate menu item / right click or press the speed button. Each input and output on a logic gate can be inverted.

Gates can also be activated in a cascade configuration. Generation of circular logic operations (feedback loops) is not prevented.

i The number of objects in the weather station including all connected modules may not exceed 200

Logic gate

Description

A description may be added to the logic gate (and is only visible in the application), e.g. for documentation purposes.

Type of logic operation

Used to set the type of logic operation Here you can choose between





exclusive-OR gate as logic components.

Send at

Used to set the gate's transmission behaviour. The two options are "Send at each input event" or "Send at change of output".

-1- Input 1... max. 8

Description

A description may be added to the logic gate (and is only visible in the application), e.g. for documentation purposes.

Input behaviour

Used to set the input behaviour.

A normal or an inverted behaviour can be set here. The chosen setting is displayed graphically (point $\!\!\!>$

inverted, no point > normal, i.e. not inverted) at the input of the symbol in the tree view window.

Output

Description

A description may be added to the logic gate (and is only visible in the application), e.g. for documentation purposes.

Output behaviour

Used to set the output behaviour.

A normal or an inverted behaviour can be set here. The chosen setting is displayed graphically (point > inverted, no point > normal, i.e. not inverted) at the output of the symbol in the tree view window.

ON delay

'No telegram'

No 'ON' telegram is sent under any circumstances.

'Delay active'

An 'ON' telegram is only sent after the time period that is set by base and factor. The delay value range is from 100 msec. to 100 min. (1 \times 100 msec to 100 \times 1 min.).

'No delay' An 'ON' telegram is sent immediately.

OFF delay

'No telegram' No 'OFF' telegram is sent under any circumstances.

'Delay active'

An 'OFF' telegram is only sent after the time period that is set by base and factor. The delay value range is from 100 msec. to 100 min. (1 x 100 msec to 100 x 1 min.).

'No delay' An 'OFF' telegram is sent immediately.

Cyclical sending of the output (x 10 s)	Descr	iption	of alarr	n byte:				
In addition to the set sending behaviour for the gate 'Send at' , the measured value can also be sent to the KNX at an interval which can be set here.	The alarm byte has the datapoint format 6.020 in accordance with KONNEX, "Status with Mode":) in ":			
Value range 0120, (corresponds to 01200 sec.)	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Example: Set 5, i.e. the measured value is sent at intervals of 50 seconds (5x10sec.).	А	В	С	D	Е	F	F	F
'0' means that the measured value is not sent cyclically.	Range	9:	A,B, FFF	C,D,E= =	{0, 1 {001	} _b , 010 _b ,	100 _b }	
If 'no telegram' (output) is set in the ON delay or OFF delay fields, the input or output telegram, as relevant, will not be sent cyclically either.	Deco A,B,C	ding: ,D,E:	0 = se	et, 1 = c	clear			
🔁 Internal analogue inputs	FFF		001 _b = 010 _b =	= mode = mode	1 is a 1 is a	ctive, ctive,		
Settings for the 4 analogue outputs integrated in the weather station can be made here.	Use ir	ו wea	= 100 _b ther sta	= mode tion:	2 is a	ctive		
Alarm signal		_						
• Do not send	A: 1 overlo	= Ov€ ad	erload, C) = no (Overloa	ad(shor	rt circu	it/
• Send alarm byte	in	sense	or feed	or coml	oi-sens	sor)		
• Send alarm bit	B: 1 (n	= Cha neasu	innel 4 c rement	verflow signal (v, 0 = 0 greate	Channe r than r	el 4 no c measur	overflow rement
"Send alarm bit" parameterisation	C: 1) = Cha	innel 3 c	verflow	/, 0 = 0	Channe	el 3 no d	overflow
The object has the datapoint format 1.001 in	range))	rement	Signal g	greate	l lidii i	neasu	ement
accordance with KONNEX, "Boolean":	D: 1 (n	= Cha neasu	innel 2 c rement	verflow signal (v, 0 = 0 greate	Channe r than r	el 2 no d measur	overflow rement
An alarm is triggered when overvoltage is measured at an input or overload is detected in the supply voltage for external sensors (+Us). The alarm bit object value is set. When the alarm signal is given using the alarm bit the cause of error cannot be diagnosed.	range E: 1 (n range) = Cha neasu)	innel 1 c rement	overflow signal (v, 0 = 0 greate	Channe r than r	el 1 no c measur	overflow rement
Object value 0 No alarm Object value 1 There is a cause for an alarm	FFF:	001 _b 010 _b 100 _b	= norm = reser = reser	al mod ved, ved	e,			
"Send alarm hyte" parameterisation								
All possible error messages for the internal 4-gang analogue input are contained in this byte, so that the relevant error message can be notified at a central point, e.g. with a display of information. The parameter values 'Send' or 'Do not send'								

determine whether or not the alarm byte should be sent.

General Value differential The last value sert is 100, so the next value to be sent is <= 97 or >= 103. Sensor type Select the system sensor you require. These sensors are already pre-configured, and are sent as a 16 bit value (with the exception of the rain sensor, which has a 16 bit value (an also be sent to the KNX at an interval which can be set here. Wind sensor Value differential The last value sert is 100, so the next value to be sent is <= 97 or >= 103. Wind sensor Value differential of the system value is not sent cyclically. Wind sensor Value range 0120, (corresponds to 01200 sec.) If Temperature sensor Value is to be sent to the KNX at an interval value is sent at intervals of 50 seconds (5x10sec.). Mindity sensor Value is to be sent to the KNX here. If Temperature sensor Maard 420 mA Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 020 mA Corrmat measured value base 90% (only for 01 V, 05 V, 020 mA and 420 mA) Sensor 010 V Sensor of the system. These are not pre-configured. If The 4 to 20 mA input can be monitored for cortmuty. (002276800) If the tak ta massing value is only sent when the differential for the sensor is measured value = 8 bit value send exend reas measured value is a soreal as possible.	Analogue input	Example: Send measured value at: 3% measured
General Sensor type Sensor type Select the system sensor you require. These sensors are already pre-configured and are sent as a 16 bit value during on the value differential, the measured value can also be sent to the KNX at an interval which can be set here. Wind sensor Wind sensor Wind sensor Wind sensor Twilight sensor Temperature sensor Rain sensor Humidity sensor Humidity sensor Humidity sensor Sensor 01V Sensor 01V Sensor 01V Sensor 01V Sensor 01V Sensor 010 V Sensor 020 mA Mand 420 mA) designate general sensors from other manufacturers within are not an integral part of the system. These are not pre-configured. The 4 to 20 mA input can be moni	Contemp	value differential The last value sent is 100, so the next value to be sent is $\langle = 97 \text{ or } \rangle = 103$.
Sensor type Select the system sensor you require. These sensors are aready pre-configured and are sent as a 16 bit value (with the exception of the rain sensor, which has a 16 bit value). Image: the system sensor you require. These sensors are available: Image: the system sensor you require. These sensors are available: Image: the system sensor you require. These sensors are available: Image: the system sensor you require. These sensors are available: Image: the system sensor you require. These sensors is from other manufacturers which has an other integral part of the system. These are to the format general sensors from other manufacturers which are not an integral part of the system. These are to the configured. Image: the system sensor you require. These are to the configured value is only sent when the differential from the last value sent you have the sensor hare. Image: the system sensor you require the system when the differential from the last value sent you have the sensor hare. Image: the system sensor you require the system is an analogue input that is not contractly. Image: the system when the differential from the last value sent you have the sensor hare. Image: the system when the differential from the last value sent you have the sensor hare. Image: the system when the differential from the last value sent you have the sensor hare. Image: the system when the differential from the last value sent you have the sensor hare. Image: the system when the differentis in you you you you you you you you you y	General	
Select the system sensor you require. These sensors are a leady trace and are sent as a 16 bit value (with the exception of the rain sensor, which has a 1 bit value). The following sensors are available: Wind sensor Wind se	Sensor type	Cycl. sending of measured value (x 10 s)
The following sensors are available: Value range 0120, (corresponds to 01200 sec.) Wind sensor '0' means that the measured value is not sent cyclically. Twilight sensor '0' means that the measured value is not sent transversion 50 seconds (5x10sec.). The presture sensor Measured value format (only for 01 V, 05 V, 020 mA and 420 mA) Select the format (8 or 16 bit) in which the measured value is to be sent to the KNX here. The possible options The 16 bit value format gives the best transmission accuracy Sensor 01V The 16 bit value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Sensor 020 mA Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:255 Format measured value = 16 bit value set:255 Format measured value = 16 bit value set:255 Format measured value = 16 bit value set:	Select the system sensor you require. These sensors are already pre-configured and are sent as a 16 bit value (with the exception of the rain sensor, which has a 1 bit value).	In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.
 Wind sensor Value range 0120, (corresponds to 01200 sec.) Value range 0120, (corresponds to 01200 sec.) Wind sensor Twilight sensor Temperature sensor Rain sensor Humidity sensor Humidity sensor Air pressure sensor Air pressure sensor The possible options Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 120 mA Sensor 420 mA designate general sensors from other manufacturers withch are not an integral part of the system. These are not pre-configured. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The assured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value since since since since since since since since value is a singe as possible in the sensor's measured value is only sent when the differential from the last value sent, which is set here, is exceeded. To obtain the grane as a possible. 	The following sensors are available:	
 Brightness sensor O' means that the measured value is not sent cyclically. Twilight sensor Temperature sensor Rain sensor Humidity sensor Humidity sensor Air pressure sensor Sensor 010 Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 020 mA Sensor 120 mA Sensor 420 mA Sensor 420 mA The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA injut can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA and 420 mA and a20 mA and a	🕵 Wind sensor	Value range 0120, (corresponds to 01200 sec.)
 Twilight sensor Temperature sensor Rain sensor Humidity sensor Humidity sensor Air pressure sensor Air pressure sensor Sensor 01V Sensor 01V Sensor 010 V Sensor 020 mA Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Enter the smallest measured value fort the sensor here. Sensor 020 mA Sensor 120 mA and 420 mA) Sensor 320 mA and 420 mA) Sensor 320 mA and 420 mA) Sent measured value at: (10 s transmission delay) Possible values are: (0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Send measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	Brightness sensor	'0' means that the measured value is not sent cyclically.
 Temperature sensor Temperature sensor Rain sensor Humidity sensor Humidity sensor Air pressure sensor The possible options Sensor 010 V Sensor 010 V Sensor 010 V Sensor 010 V Sensor 020 mA Sensor 120 mA Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Sensor 010 V Sensor 010 V Sensor 120 mA Sensor 220 mA Sensor 220 mA Sensor 220 mA Sensor 320 mA Sensor 420 mA Sensor 420 mA Sensor 420 mA Sensor 420 mA The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Send measured value at: (10 s transmission delay) Possible values are: 0.5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	Twilight sensor	Example: Set 5, i.e. the measured value is sent at
 Measured value format (only for 01 V, 05 V, 020 MA and 420 mA) Select the format (8 or 16 bit) in which the measured value is to be sent to the KNX here. Air pressure sensor The possible options Sensor 01V Sensor 01V Sensor 010 V Sensor 020 mA Sensor 420 mA Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Enter the smallest measured value for the sensor here. Format measured value = 8 bit value set:0255 Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:-32768 (0)32767 Measured value base 100% (only for 01 V, 05 V, 020 mA and 420 mA) Enter the largest measured value for the sensor here. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Send measured value at: (10 s transmission delay) Possible values are: 0.5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	Temperature sensor	intervals of 50 seconds (5x10sec.).
 Select the format (8 or 16 bit) in which the measured value is to be sent to the KNX here. Air pressure sensor The possible options Sensor 01V Sensor 010 V Sensor 020 mA Sensor 120 mA Sensor 420 mA Sensor 420 mA The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Sensor 'marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Send measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	Rain sensor	Measured value format (only for 01 V, 05 V, 020 mA and 420 mA)
 Air pressure sensor Air pressure sensor The 16 bit value format gives the best transmission accuracy Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Sensor 010 V Sensor 020 mA Sensor 420 mA Sensor 420 mA Sensor 420 mA Sensor 420 mA The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Sensor marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	Humidity sensor	Select the format (8 or 16 bit) in which the measured value is to be sent to the KNX here.
The possible options Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA) Sensor 010 V Enter the smallest measured value for the sensor here. Sensor 020 mA Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:-32768 (0)32767 Measured value base 100% (only for 01 V, 05 V, 020 mA and 420 mA) Image: the sensor form other manufacturers which are not an integral part of the system. These are not pre-configured. Image: the to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. ViNo sensor' marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.	hPa Air pressure sensor	The 16 bit value format gives the best transmission accuracy
 Sensor 01V Sensor 010 V Sensor 020 mA Sensor 420 mA Sensor 420 mA Sensor 420 mA The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Sensor' marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. 	The possible options	Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA)
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 Sensor 420 mA designate general sensors from other manufacturers which are not an integral part of the system. These are not pre-configured. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. No sensor' marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Measurement range can be shown completely. To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible. 	Sensor 020 mA	Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:-32768 (0)32767
 designate general sensors from other manufacturers which are not an integral part of the system. These are not pre-configured. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 The 4 to 20 mA input can be monitored for continuity. 1 No sensor' marks an analogue input that is not currently in use. 20 mA and 420 mA and 420 mA input can be shown completely. 3 Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit) 1 Bere enter the smallest factor (base value x factor = measured value) with which the sensor's measurement range can be shown completely. 1 To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible. 	📩 Sensor 420 mA	Measured value base 100% (only for 0., 1 V. 0., 5 V.
 which are not an integral part of the system. These are not pre-configured. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. The 4 to 20 mA input can be monitored for continuity. Format measured value = 8 bit value set: 0255 Format measured value = 16 bit value set: -32768 (1000)32767 Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit) Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible. 	designate general sensors from other manufacturers	ample: Send measured value at: 3% measured lue differential The last value sent is 100, so the next lue to be sent is <= 97 or >= 103. vcl. sending of measured value (x 10 s) addition to the function for sending measured lues depending on the value differential, the easured value can also be sent to the KNX at an erval which can be set here. lue range 0120, (corresponds to 01200 sec.) means that the measured value is not sent clically. ample: Set 5, i.e. the measured value is sent at ervals of 50 seconds (5x10sec.). easured value format (only for 01 V, 05 V, 020 A and 420 mA) elect the format (8 or 16 bit) in which the measured lue is to be sent to the KNX here. The 16 bit value format gives the best transmission accuracy easured value base 0% (only for 01 V, 05 V, 020 A and 420 mA) etr the smallest measured value for the sensor measured value base 100% (only for 01 V, 05 V, 020 A and 420 mA) easured value base 100% (only for 01 V, 05 V, 255 armat measured value = 8 bit value set:0255 armat measured value = 8 bit value set:0255 armat measured value = 8 bit value set:0255 armat measured value = 8 bit value set:-32768 (1000)32767 easurement range factor (only for 01 V, 05 V, 20 mA and 420 mA) etr the largest measured value for the sensor here. armat measured value = 8 bit value set:-32768 (1000)3276
Image: The 4 to 20 mA input can be monitored for continuity.Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:-32768 (1000)32767'No sensor' marks an analogue input that is not currently in use.Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit)Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:0257 Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit)To obtain the sensor's measurement range can be shown completely.To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible.	which are not an integral part of the system. These are not pre-configured.	Enter the largest measured value for the sensor here.
 'No sensor' marks an analogue input that is not currently in use. Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit) Here enter the smallest factor (base value x factor = measured value) with which the sensor's measurement range can be shown completely. I To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible. 	The 4 to 20 mA input can be monitored for continuity.	Format measured value = 8 bit value set:0255 Format measured value = 16 bit value set:-32768 (1000)32767
 Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Here enter the smallest factor (base value x factor = measured value) with which the sensor's measurement range can be shown completely. To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible. 	'No sensor' marks an analogue input that is not currently in use.	Measurement range factor (only for 01 V, 05 V, 020 mA and 420 mA and measured value format = 16 bit)
Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible.	Send measured value at: (10 s transmission delay)	Here enter the smallest factor (base value x factor =
The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible.	Possible values are: 0,5%, 1%, 3%, 10%.	measurement range can be shown completely.
	The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.	To obtain the greatest possible precision, select a base value that is as large as possible (absolute) and a factor that is as small as possible.

Example: A pressure transmitter has a measurement range of -50 Pa to +150 Pa. Its output signal is 0 to 10 V. Select the base value for 0% of the measured value (0 V input voltage = smallest sensor measured value) with -5000 (-5000 x 0.01 = -50.00 Pa) and the base value for 100% of the measured value (10 V input voltage = upper sensor measured value): 15000 (15000 x 0.01 = 150.00 Pa)



When a pre-configured sensor is selected, the measured value is always in 16 bit format (with the exception of the rain sensor). Depending on the chosen sensor, the following measured value units are configured/can be selected:

• Wind sensor:	m/s, km/h
 Brightness sensor 	kLux
 Twilight sensor 	Lux
• Temperature sensor	° Celsius, ° Fahrenheit
 Humidity sensor 	hPa (mbar)
• Air pressure sensor	%

Limit value 1/2

Limit value 1/2

Determines the limit value. In the case of preconfigured sensors, the limit values are shown absolutely in the corresponding unit. With 0...1 V and 0...5 V the limit value is shown in V, with 0...20 mA and 4...20 mA sensors in mA.

Hysteresis 1/2

Determines the hysteresis. In the case of preconfigured sensors, these are shown absolutely in the corresponding unit. With 0...1 V and 0...5 V the hystereses are shown in V, with 0...20 mA and 4...20 mA sensors in mA.

Activation limit value 1/2

Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value.

Possible settings are:

- Above LV=ON, below LV-hyst.=OFF(*default for LV2*)
- Above LV=OFF, below LV-hyst.=ON
- Below LV=ON, above LV+hyst.=OFF(*default for LV1*)
- Below LV=OFF, above LV+Hyst=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

Please note that it is not possible to set a value that is below the left stop or above the right stop. In such cases, the object value remains constant, after being modified once if necessary.

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0v	Übersicht	10/
HYS1(1)		HYS2(0),⊮2(1)
Grenzwert 1 0/ Functional and the second s	10V 1 Aktivierung Grenzwert 1 Überschr. GW-EIN, Unter	v schr.GW/Hyst=AUS
Grenzwert 2 0V	10V	v
Hysterese Grenzwert2	Aktivierung Grenzwert 2	chr.GW-Hyst=AUS
		Abbrechen <u>H</u> ilfe

External limit value 1/2

Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.



Limit value activation.

...-Hyst => Add hysteresis to the lower end value, ...+Hyst => Subtract hysteresis from the upper end value. Example: Internal limit value 5[50%], hysteresis limit value 0.5[5%], above LV=ON, below LV-Hyst=OFF. For this example, limit the value range for the external limit value to 6% (1% tolerance + 5% hysteresis) up to 99% (100% - 1% tolerance).

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

Include a small tolerance value so that the values can i be exceeded or under-run.



Limit value activation.

...-Hyst => Add hysteresis to the lower end value, ...+Hyst => Subtract hysteresis from the upper end value.

Example: Brightness sensor 0 to 60 kLux, hysteresis limit value 5 kLux, above LV=ON, below LV-Hyst=OFF. For this example, limit the value range for the external limit value to 5.2 kLux (0.2 kLux tolerance + 5 kLux hysteresis) up to 58.9 kLux (60 kLux - 0.2 kLux tolerance).

Continuity

Continuity checking

When the 4... 20 mA sensor is chosen, continuity checking can be activated. Depending on the parameterisation, a '0' or '1' telegram can be sent via a 1 bit object.

Combi-sensor

The settings for a weather combi-sensor (art.no. 663692), which can be connected to the weather station to measure wind force, brightness (3gang), twilight and rain, with a DCF77receiver, can be made here.

Alarm signal

- Do not send
- Send alarm byte

All possible error messages for the combi-sensors are contained in this byte, so that the relevant error message can be notified at a central point, e.g. with a display of information.

The parameter values 'Send' or 'Do not send' determine whether or not the alarm byte should be sent.

Description of alarm byte - see above.

DCF77/ slat position

The following functions

- Slat angle positioning depending on the position of the sun (astro function) and
- sending the DF77 time standard to the KNX
- can be activated.

Enabled

Activates the sun-dependent slat control and transmission of the DCF77 time standard (time and date). This function can only be used with a combisensor with DCF77 option.

Disabled

Select disabled from the list when using a combisensor <u>without DCF77</u> option.

DCF77 (can only be seen if DCF77/slat position is enabled)

The combi-sensor automatically synchronises after a reset or daily at 04:00. When synchronisation is successful, it continues to measure time internally with a precision of 40 ppm (approx 4s/24h) until the following synchronisation the next morning. If synchronisation failed, the combi-sensor tries to synchronise itself again every hour.

Send date and time

Here you can determine whether the DCF77 time standard is sent to the KNX, and when.

The date and time object flag must always be set so that it cannot be read out! This prevents invalid values from being read out.

Possible values are:

- do not send,
- send on request,
- at 1 minute intervals,
- at 1 hour intervals,
- at 24 hour intervals

Request time/date by

In addition to a set time interval for 'Send date and time', the time and date are sent to the KNX no more than 1 minute after a 1-telegram or 0-telegram is received.

The weather station waits for the minute that has just begun to expire and then sends the current date and time.

If the date and/ or time object contains invalid values, no answer is sent to a request telegram.

The date and time object flag must always be set so that it cannot be read out! This prevents invalid values from being read out.

Sun position cycl. Send (0 = off, basis = 10s)

The time interval set here determines how often the values for the azimuth and elevation objects are sent to the KNX.

Cyclical sending of the sun position is carried out only when the time and date have been transmitted, as this date is required to calculate the azimuth and elevation values.

Value range 0...255, (corresponds to 0...2550 sec. i.e. 0...42.5 min.)

'0' means that the calculated values are not sent cyclically.

Example: Set 96, i.e. the calculated values are sent at intervals of 960 seconds (96x10sec.), i. e. every 16min. (960/60).

Slat control (can only be seen if DCF77/slat position is enabled)

Transmission of slat control telegrams is carried out only when the time and date have been transmitted, as this date is required to calculate the slat control values.

The shade control process must have been carried out with at least one blind before the slats can be adjusted.

Geographical longitude of building

Click on the [...] button to access the input menu for the building's geographical latitude and longitude.

Geographical latitude of building

Click on the [...] button to access the input menu for the building's geographical latitude and longitude.

Geographische Koordinaten bestimmen	×
Dezimalgrad	
Bite Koordinaten eingeben Grad Minuten Sekunden Geographische Länge Image Image Image Image Geographische Breite Image Image Image Image Image Image Image Image Image	
Ausgewertete Koordinaten Dezimalgrad Geographische Länge 0 7.62* Geographische Breite N 51.22*	
<u>Q</u> k Abbreghen <u>H</u> ilfe]

Absolute slat position

Select 'Degree' or 'Percent' here, depending on the KNX blind actuator you are using. The settings to be made here are detailed in the technical data for the relevant blind actuator.

Value range in degrees: -90°...0°...+90°

Value range in percent: 0%...100°

Offset slat adjustment

Depending on the blinds used or their specifications (max. glare shield, max. brightness, max. thermal insulation) it may be necessary to enter a correction value here.

i Slat adjustment depending on sun position sets the slats so that they are perpendicular to the sun.

Cycl. transmission (x 10 s)

The time interval set here determines how often a positioning telegram is sent to the KNX.

Value range 0...255, (corresponds to 0...2550 sec., i.e. 0... approx. 42 min.)

'0' means that the measured value is not sent cyclically.

Example: Set 96, i.e. the measured value is sent at intervals of 960 seconds (96x10sec.), i. e. every 16min. (960/60).

Do not set too short a time interval, as depending on the blind used, each positioning telegram may cause a clearly audible "jerk" to occur.

Monitoring

Connection to the combi-sensor

The electrical connection between the weather station and combi-sensor is constantly monitored, to protect drapes, blinds etc. which may be very costly. If the connection is interrupted, a 1 bit connection error telegram and (if activated) the combi-sensor alarm byte are sent to the KNX. Protective measures can then be taken: e.g. the drapes can be drawn back. Activate this function by selecting 'monitor'.

Wind signal

By selecting 'monitor' you also activate the coherency check for the wind sensor signals. Monitoring of the wind signal is particularly important in protecting drapes, blinds etc. which may be very costly. If the signals are recognised as "incoherent" (see 'Max. time for no wind' and 'Max. time for wind constant'), a 1 bit error1 or/and an error2 telegram, as well as (if activated) the combi-sensor alarm byte are sent to the KNX. Protective measures can then be taken: e.g. the drapes can be drawn back.

max. time for 'no wind' in hours

Coherency check for the wind sensor signals to determine if this sensor is frosted up or mechanically defective. If a zero value is received for longer than the set time, the signal is classified as "incoherent", i.e. it is assumed that an error has occurred. To trigger protective measures a 1 bit error1 telegram and (if activated) the combi-sensor alarm byte is sent to the KNX.

Value range: 0 to 180 (10) hours '0' means that error telegrams are not sent.

Do not set too small a time, as this may lead to bothersome, possibly unnecessary actions being triggered. Request a sensible value for the building location from the local meteorological station.

max. time for 'wind constant' in minutes

Coherency check for the wind sensor signals to determine if this sensor is electronically defective. If a constant value is received for longer than the set time, the signal is classified as "incoherent", i.e. it is assumed that an error has occurred. To trigger protective measures a 1 bit error2 telegram and (if activated) the combi-sensor alarm byte is sent to the KNX.

Value range: 0 to 255 (10) minutes '0' means that error telegrams are not sent.

Do not set too small a time, as this may lead to bothersome, possibly unnecessary actions being triggered. Request a sensible value for the building location from the local meteorological station.

Shading facades 1-4	
General	Example 1: Angle of opening 1°, i. e. shade is only created when the sun is vertical to the facade.
Background brightness threshhold	
Select 'external' here if building users should be able to modify the background brightness threshold during operation (external valuator required).	I O I
Background brightness shading [kLux]	Example 2: Angle of opening 179°, i.e. shade is created as soon as the sun shines into the window to
Background brightness hysteresis [kLux]	even the smallest degree.
Cycl. transmission (x 10 s)	
The background brightness set is sent to the KNX at the interval configured here. Value range 0255, (corresponds to 02550 sec., i.e. approx. 42 min.)	
	Angle of opening in ° for facade 1
'U' means that the measured value is not sent cyclically.	Internal angle of opening* preset and fixed by this application.
Shading angle facades 1.4	
Alignment of facade 1	Value range: 0180° '0' corresponds to "No shading of this facade"
0/360° corresponds to north	
90° corresponds to east	Alignment of facade 2
270° corresponds to west	0/360° corresponds to north
Angle of opening to the sup	90° corresponds to east
	180° corresponds to south
Select 'internal' here if the angle of opening* to the sun is to be pre-determined.	Angle of opening to the sun
	Internal
Value range: 0180° '0' corresponds to "No shading of this facade"	Select 'internal' here if the angle of opening* to the sun is to be pre-determined.
External Select 'external' here if building users should be able to modify the angle of opening* during operation (external valuator required!).	Value range: 0180° '0' corresponds to "No shading of this facade" External
Value range: 0180° '0' corresponds to "No shading of this facade"	Select 'external' here if building users should be able to modify the angle of opening* during operation (external valuator required!).
Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.	Value range: 0180° '0' corresponds to "No shading of this facade"
*) Angle (azimuth) vertical to the facade. If the sun is within this angle of opening, shade is created.	internal value. The internal value is only

reactivated after the project has been downloaded again.	Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again
*) Angle (azimuth) vertical to the facade. If the sun is within this angle of opening, shade is created.	
	*) Angle (azimuth) vertical to the facade. If the sun is within this angle of opening, shade is created.
Example 1: Angle of opening 1°, i. e. shade is only created when the sun is vertical to the facade.	
I	
1 0	Example 1: Angle of opening 1°, i. e. shade is only
1	created when the sun is vertical to the facade.
Example 2: Angle of opening 179°, i.e. shade is	I
created as soon as the sun shines into the window to	I 0
even the smallest degree.	
0	
	Example 2: Angle of opening 179°, i.e. shade is
	even the smallest degree.
	0
0	Ι Ο
Angle of opening in ° for facade 2	Ι Ο
Internal angle of opening* preset and fixed by this	ΙΟ
application.	0
Value range: 0180°	Angle of opening in ° for facade 3
'0' corresponds to "No shading of this facade"	Internal angle of opening* preset and fixed by this application.
Alignment of facade 3	
0/360° corresponds to north	Value range: 0180°
90° corresponds to east	'0' corresponds to "No shading of this facade"
180° corresponds to south	Alignment of facade 4
270° corresponds to west	$0/360^{\circ}$ corresponds to porth
Angle of opening to the sun	90° corresponds to east
	180° corresponds to south
Internal Calact listernall have if the engle of energingst to the	270° corresponds to west
sun is to be pre-determined.	Angle of opening to the sun
Value range: 0 180°	Internal
'0' corresponds to "No shading of this facade"	Select 'internal' here if the angle of opening* to the
o corresponds to no shading of this facade	sun is to be pre-determined.
External	Value range: 0, 190°
Select 'external' here if building users should be able	'A' corresponds to "No shading of this facade"
(external valuator required!).	
	External
Value range: 0180°	Select 'external' here if building users should be able
'0' corresponds to "No shading of this facade"	to modify the angle of opening* during operation (external valuator required!).

Value range: 0180° '0' corresponds to "No shading of this facade"	measured value can also be sent to the KNX at an interval which can be set here.
Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.	Value range 0120, (corresponds to 01200 sec.) '0' means that the measured value is not sent cyclically.
*) Angle (azimuth) vertical to the facade. If the sun is within this angle of opening, shade is created.	Limit value 1/2 Determines the limit value. These limit values are given absolutely in Lux.
Example 1: Angle of opening 1°, i. e. shade is only created when the sun is vertical to the facade.	Hysteresis 1/2 Determines the hysteresis absolutely in Lux.
<pre>I I O I Example 2: Angle of opening 179°, i.e. shade is created as soon as the sun shines into the window to even the smallest degree. O I O I O I O I O I O I O I O I O I O I</pre>	Activation limit value 1/2 Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value. Possible settings are: • Above LV=ON, below LV-hyst.=OFF(<i>default for LV2</i>) • Above LV=OFF, below LV-hyst.=ON • Below LV=ON, above LV-hyst.=OFF(<i>default for LV1</i>) • Below LV=OFF, above LV-Hyst=ON
Angle of opening in ° for facade 4 Internal angle of opening* preset and fixed by this application. Value range: 0180° '0' corresponds to "No shading of this facade"	Please click on the [] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list. The set behaviour is displayed graphically in the Overview field. Limit values may overlap.
🕎 Twilight	External limit value 1/2
Settings for the twilight sensor integrated in the combi-sensor can be made here.	Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).
General Send measured value at: (10 s transmission delay) Possible values are: 0,5%, 1%, 3%, 10%.	Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.
The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded. Cycl. sending of measured value (x 10 s) In addition to the function for sending measured	8 bit value A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the

this please also ensure that the setting does not fall below the sensor's starting value.

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

Precipitation

Settings for the rain sensor integrated in the combisensor can be made here.

General

Rain detection is carried out optically, and there is no ON delay inside the sensor. There is an OFF delay in the sensor of approx. 3 min.

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.

Value range 0...120, (corresponds to 0...1200 sec.)

 $^{\prime}\mathrm{O}^{\prime}$ means that the measured value is not sent cyclically.

Output

Determines the object value for rain (no precipitation =0, precipitation =1 or no precipitation =1, precipitation =0).

Sun east

Settings for the eastwards oriented brightness sensor integrated in the combi-sensor can be made here.

General

Send measured value at: (10 s transmission delay)

Possible values are: 0,5%, 1%, 3%, 10%. The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.

Value range 0...120, (corresponds to 0...1200 sec.)

'0' means that the measured value is not sent cyclically.

Limit value 1/2

Determines the limit value. These limit values are given absolutely in kLux.

Hysteresis 1/2

Determines the hysteresis absolutely in kLux.

Activation limit value 1/2

Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value.

Possible settings are:

- Above LV=ON, below LV-hyst.=OFF(*default for LV2*)
- Above LV=OFF, below LV-hyst.=ON
- Below LV=ON, above LV-hyst.=OFF(*default for LV1*)
- Below LV=OFF, above LV-Hyst=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

External limit value 1/2

Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

Sun south

Settings for the southwards oriented brightness sensor integrated in the combi-sensor can be made here.

General

Send measured value at: (10 s transmission delay)

Possible values are: 0,5%, 1%, 3%, 10%.

The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.

Value range 0...120, (corresponds to 0...1200 sec.)

'0' means that the measured value is not sent cyclically.

Limit value 1/2

Determines the limit value. These limit values are given absolutely in kLux.

Hysteresis 1/2

Determines the hysteresis absolutely in kLux.

Activation limit value 1/2

Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value.

Possible settings are:

- Above LV=ON, below LV-hyst.=OFF(default for LV2)
- Above LV=OFF, below LV-hyst.=ON
- Below LV=ON, above LV-hyst.=OFF(*default for LV1*)
- Below LV=OFF, above LV-Hyst=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

External limit value 1/2

Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

📜 Sun west

Settings for the westwards oriented brightness sensor integrated in the combi-sensor can be made here.

General

Send measured value at: (10 s transmission delay)

Possible values are: 0,5%, 1%, 3%, 10%.

The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.

Value range 0...120, (corresponds to 0...1200 sec.)

'0' means that the measured value is not sent cyclically.

Limit value 1/2

Determines the limit value. These limit values are given absolutely in kLux.

Hysteresis 1/2

Determines the hysteresis absolutely in kLux.

Activation limit value 1/2

Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value.

Possible settings are:

- Above LV=ON, below LV-hyst.=OFF(default for LV2)
- Above LV=OFF, below LV-hyst.=ON
- Below LV=ON, above LV-hyst.=OFF(default for LV1)
- Below LV=OFF, above LV-Hyst=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

External limit value 1/2

Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

🐌 Wind

Settings for the wind sensor integrated in the combisensor can be made here.

General

Send measured value at: (10 s transmission delay)

Possible values are: 0,5%, 1%, 3%, 10%.

The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.

Cycl. sending of measured value (x 10 s)

In addition to the function for sending measured values depending on the value differential, the measured value can also be sent to the KNX at an interval which can be set here.

Value range 0...120, (corresponds to 0...1200 sec.)

'0' means that the measured value is not sent cyclically.

Measured value unit

The unit for the wind sensor is determined here (m/s or km/h).



Caution the value sent is highly dependent on the chosen unit.

Example: Measured value 6 m/s. If the unit m/s is set, a value of 6 is sent, but if the unit km/h is set, a value of 21.6 is sent.

Limit value 1/2

Determines the limit value. These limit values are shown absolutely in m/s or km/h.

Hysteresis 1/2

Determines the hystereses absolutely in m/s or km/h.

Activation limit value 1/2

Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value.

Possible settings are:

- Above LV=ON, below LV-hyst.=OFF(default for LV2)
- Above LV=OFF, below LV-hyst.=ON
- Below LV=ON, above LV-hyst.=OFF(*default for LV1*)
- Below LV=OFF, above LV-Hyst=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

External limit value 1/2

Select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

Start-up

Connection

The combi-sensor is fitted with a 10 m connecting cable. The cable can be extended to max. 50 m.

The combi-sensor connecting cable cores are colour coded for connection to the weather station.

green (1)	: System voltage 24 V DC, > 15 mA, +
yellow (2)	: Data
white (3)	: bus clock cycle
brown (4)	System earth (24 V DC, > 15 mA, -)
pink	: Power supply 24 V AD/DC, 600 mA, +
grey	: Earth power supply

Log-on

After connecting and switching on voltage, the combisensor must be logged on to the weather station. The combi-sensor indicates this state with two short acoustic tones which are repeated every 5 s. The integrated reed contact (see arrow) can be activated with a small magnet, so that five short tones can be heard.



After the magnet is removed, the combi-sensor is logged on and is now sending data to the weather station. The weather station saves the data. Finally, the weather station and combi-sensor carry out a reset. The combi-sensor signals this with a short tone.

Alignment of aerials

If the combi-sensor is equipped with a DCF77 receiver, the next task is to align the aerial. This is done after logging on.

To check reception of a DCF77 time signal, the reed contact is again activated with the magnet, until five short tones are heard. The magnet must be kept in the same position. The combi-sensor now indicates that the time signal is being received with a short acoustic tone. Where reception is perfect, the complete time signal is sounded.

The time signal should make a short beep every second. A pause one tone long is made to mark each full minute. The tones are of different lengths, corresponding to the binary information.

If the signals are not sounded, or sounded only irregularly, the receiving aerial must be aligned. The aerial can be accessed underneath the combi-sensor. It can be rotated through 45° and can be aligned with a small screwdriver until the signal is heard every second.

The magnet can now be removed. To complete the process, the combi-sensor acknowledges this with a 5 second-long tone, and is then ready for operation.

Analogue input module

A REG/4-gang analogue input module, art. no. 682192 can be connected to the weather station, to add a maximum of four additional analogue sensors. This module is parameterised in this node.

Alarm signal

- Do not send
- Send alarm byte
- Send alarm bit

"Send alarm bit" parameterisation

The object has the datapoint format 1.001 in accordance with KONNEX, "Boolean":

An alarm is triggered when overvoltage is measured at an input or overload is detected in the supply voltage for external sensors (+Us). The alarm bit object value is set. When the alarm signal is given using the alarm bit the cause of error cannot be diagnosed.

- Object value 0 No alarm
- Object value 1 There is a cause for an alarm

"Send alarm byte" parameterisation

All possible error messages for the analogue input module are contained in this byte, so that the relevant error message can be notified at a central point, e.g. with a display of information.

The parameter values 'Send' or 'Do not send' determine whether or not the alarm byte should be sent.

Description of alarm byte - see above.

Analogue input	Example: Send measured value at: 3% measured value differential The last value sent is 100, so the next
General	value to be sent is <= 97 or >= 103.
Sensor type	
Select the system sensor you require. These sensors are already pre-configured and are sent as a 16 bit value (with the exception of the rain sensor, which has a 1 bit value).	
The following sensors are available:	
💫 Wind sensor	
Brightness sensor	
Twilight sensor	
Temperature sensor	
Rain sensor	
Humidity sensor	
nPa Air pressure sensor	
The possible options	
Sensor 01 V	
Sensor 010 V	
빠짐 Sensor 020 mA	
"Ă Sensor 420 mA	
designate general sensors from other manufacturers which are not an integral part of the system. These are not pre-configured.	
The 4 to 20 mA input can be monitored for continuity.	
'No sensor' marks an analogue input that is not currently in use.	
Send measured value at: (10 s transmission delay)	
Possible values are: 0,5%, 1%, 3%, 10%.	
The next measured value is only sent when the differential from the last value sent, which is set here, is exceeded.	

Cycl. sending of measured value (x 10 s)	value for 100% of the measured value (10 V input voltage = upper sensor measured value): 15000
In addition to the function for sending measured values depending on the value differential, the	$(15000 \times 0.01 = 150.00 \text{ Pa})$
interval which can be set here.	Note: In the example shown, it was also possible to choose -500 / 1500 / 0.1. In this case however, only
Value range 0120, (corresponds to 01200 sec.)	one decimal place would be detected (-50.0 Pa to 150.0Pa).
'0' means that the measured value is not sent cyclically.	When a pre-configured sensor is selected, the measured is always in 16 bit format (with the exception of the rain sensor). Depending on the chosen sensor, the following measured value units are
Example: Set 5, i.e. the measured value is sent at intervals of 50 seconds (5x10sec.).	configured/can be selected:
Measured value format (only for 01 V, 05 V, 020	Wind sensor:m/s, km/h
Select the format (8 or 16 bit) in which the measured	Brightness sensor kLux
value is to be sent to the KNX here.	Twilight sensor Lux
The 16 bit value format gives the best transmission accuracy	Temperature sensor [°] Celsius , [°] Fahrenheit
Measured value base 0% (only for 01 V, 05 V, 020 mA and 420 mA)	Humidity sensor%
Enter the smallest measured value for the sensor	nPa Air pressure sensor hPa (mbar)
	Limit value 1/2
Format measured value = 8 bit value set:0255	Limit value 1/2
Format measured value = 16 bit value set:-32768 (0)32767	Determines the limit value. In the case of pre- configured sensors, the limit values are shown
Measured value base 100% (only for 01 V, 05 V, 020 mA and 420 mA)	absolutely in the corresponding unit. With 01 V and 05 V the limit value is shown in V, with 020 mA and 420 mA sensors in mA.
Enter the largest measured value for the sensor here.	Hysteresis 1/2
Format measured value = 8 bit value set:0255	Determines the hysteresis. In the case of pre-
Format measured value = 16 bit value set:-32768 (1000)32767	configured sensors, these are shown absolutely in the corresponding unit. With 01 V and 05 V the
Measurement range factor (only for 01 V, 05 V,	mA sensors in mA.
020 mA and 420 mA and measured value format = 16 bit)	Activation limit value 1/2
Here enter the smallest factor (base value x factor = measured value) with which the sensor's measurement range can be shown completely.	Determines whether the limit value should be activated if exceeded (deactivation if limit value – hysteresis) or if fallen below (deactivation if limit value + hysteresis) and defines the value of the active limit value
To obtain the greatest possible precision, select a	Possible settings are:
a factor that is as small as possible.	 Above LV=ON, below LV-hyst.=OFF(default for LV2)

Example: A pressure transmitter has a measurement range of -50 Pa to +150 Pa. Its output signal is 0 to 10 V. Select the base value for 0% of the measured value (0 V input voltage = smallest sensor measured value) with -5000 (-5000 x 0.01 = -50.00 Pa) and the base

Below LV=ON, above LV-hyst.=OFF(*default for LV1*)
Below LV=OFF, above LV-Hyst=ON

• Above LV=OFF, below LV-hyst.=ON

Please click on the [...] button to set the internal limit values and hystereses. The limit value setting window opens. Limit values and hystereses are set using the slide rules. Select when the corresponding limit value should be activated, i.e. a 0 or 1 sent, in the Limit value activation field. Select the required behaviour from the list.

The set behaviour is displayed graphically in the Overview field. Limit values may overlap.

Please note that it is not possible to set a value that |i| is below the left stop or above the right stop. In such cases, the object value remains constant, after being modified once if necessary.

n	
Ubersi	:ht
UV	100
HYS1(00)+/1(1)	HYS2(D)√2(1)
Grenzwert 1	
	10/
Hysterese Grenzwert1	Aktivierung Grenzwert 1
0/	
100	
1 J	Uberschr.GW=EIN, Unterschr.GW-Hyst=AUS
arenzwert 2	10/
09	
	la
Hustorees Greenwest?	Altriance Comment 2
Hysterese Grenzwert2	Aktivierung Grenzwert 2
Hysterese Grenzwert2 0V 10V	Aktivierung Grenzwert 2
Hysterese Grenzwert2	Aktivierung Grenzwert 2
Hysterese Grenzwert2 0V 10V C	Aktivierung Grenzwert 2 Überschr.GW-EIN, Unterschr.GW-Hyst=AUS
Hysterese Grenzwert2	Aktivierung Grenzweit 2
Hysterese Grenzwort2	Aktivierung Grenzwert 2 Übersch: GW-EIN, Untersch: GW-HystwAUS

External limit value 1/2

Click on the [?] button to select here '8 bit value' or '16 bit value' if building users should be able to modify the limit value during operation (external valuator required).



Caution: The external value overwrites the internal value. The internal value is only reactivated after the project has been downloaded again.

8 bit value

A value from 0 to 100% of the end value of the sensor is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hystereses cannot occur. So the valuator value range should also be limited accordingly. In doing this please also ensure that the setting does not fall below the sensor's starting value.

Use the percentage values (in square brackets) for i the limit values and hysteresis as a guide. Include 1% tolerance so that the values can be exceeded or under-run.



...-Hyst => Add hysteresis to the lower end value, ...+Hyst => Subtract hysteresis from the upper end value.

Example: Internal limit value 5 [50%], hysteresis limit value 0.5 [5%], above LV=ON, below LV-Hyst=OFF. For this example, limit the value range for the external limit value to 6% (1% tolerance + 5% hysteresis) up to 99% (100% - 1% tolerance).

16 bit value

The real sensor end value (in phys. unit) is expected here. Please configure the external valuator so as to ensure that conflicts with the limit value +/- hysteresis cannot occur. So the valuator value range should also be limited accordingly. Please also ensure that the setting does not fall below the sensor's starting value.

i

Include a small tolerance value so that the values can be exceeded or under-run.



i Limit value activation.

...-Hyst => Add hysteresis to the lower end value, ...+Hyst => Subtract hysteresis from the upper end value.

Example: Brightness sensor 0 to 60 kLux. hysteresis limit value 5 kLux, above LV=ON, below LV-Hyst=OFF. For this example, limit the value range for the external limit value to 5.2 kLux (0.2 kLux tolerance + 5 kLux hysteresis) up to 58.9 kLux (60 kLux - 0.2 kLux tolerance).

Continuity

Continuity checking

When the 4... 20 mA sensor is chosen, continuity checking can be activated. Depending on the parameterisation, a '0' or '1' telegram can be sent via a 1 bit object.