Content

1 Using the application program

Product family:	Multisensors
Manufacturer:	IPAS GmbH
Name:	Piazza Sense
Order no.:	81471-00
Application:	81471_PiazzaSense_V1.0.0

1.1 General product information

Universally applicable room controller for measuring room climate data and controlling the room climate based on recorded measurements. In addition to displaying the room data on an OLED display, the controller offers a traffic light warning (red, yellow, green) and an acoustic signal to inform about the status of threshold values. The display can be operated via two capacitive buttons (positions 1 and 2 in Figure 1). Control parameters can be set via a suitable KNX operating station. IPAS offers the Piazza 3G Tune pressure/rotary button specifically for the controller settings.
The KNX sensor station Piazza Sense can be mounted in all common switch sockets from Ø55 to Ø68 mm via two mounting screws. Piazza Sense can be combined with many 55 mm socket ranges from different manufacturers (e.g. with frame made by Gira -> standard 55). An arrangement of several Piazza Sense devices within a frame combination is also possible.

The Bus coupler for the connection to the KNX Bus is integrated in the device and the connection is made via a standard Bus terminal. The programming LED and programming button are accessible on the back. With the magnetic program button, the KNX sensor station Piazza Sense can be set to programming mode at position 3 in Figure 1 when installed. All 3 traffic light LEDs light up at the same time when the programming mode has been activated.

1.2 Function of the application program

The application program can only be used with the KNX sensor station Piazza Sense and can be commissioned with the KNX commissioning tool ETS from version 5 upwards. Parameter settings define the functions of the device. According to the configuration, group objects and parameter settings are displayed so that only those that are available for a function are visible.

The two capacitive buttons can be configured either as a button pair or as individual buttons. In addition, the buttons can be used to acknowledge alarms.

Different information can be displayed in the Piazza Sense OLED display. Up to three different screens are available to display different information. The individual screen pages can be activated via corresponding parameters.
In addition, you can specify which of the three screens should serve as the main display. Navigation between individual screen pages is possible either via the two capacitive buttons, a communication object or automatic switching. The three screen pages can be configured for different status displays such as setpoints, actual values, operating modes, texts, alarms, time and date, etc.

Figure 1: KNX Sensor station Piazza Sense

Legend:

1: Capacitive button left

2: Capacitive button right

3: Magnetic program button

2 Overview of ETS communication objects

Total number of communication objects:	100
Maximum number of group addresses:	200
Maximum number of links:	200

2.1 Communication objects for the function of button pairs

The following communication objects are only displayed with certain configurations. If the parameter "no function" is selected, all objects of the button pair are hidden.

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Switch, On/Off	1 Bit	1.001	CWT
This object is used to send an on telegram when the right button is pressed and an off telegram when the left button is pressed. The direction of the buttons can be changed via a separate parameter.					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Set Value, Value	1 Byte	5.001	CWT
This object switches between two values when the left and right buttons are pressed.					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Set Value, Value	1 Byte	5.001	CWT
A higher value is sent via this object when the right button is pressed, or a lower value is sent when the left button is pressed. The step size per keystroke is adjustable.					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Setpoint Deviation	2 Byte	9.001	CWT
This object increases the setpoint according to the parameter setting when the right button is pressed. When the left button is pressed, the setpoint is lowered according to the parameter setting. The setpoint can be increased or lowered in both a positive or negative direction by a maximum of 6 steps starting from the center position (0) (parameter setting).					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Room Operation Mode	1 Byte	20.102	CWT
This object moves the operating mode up when the right button is pressed briefly and moves it back when the left button is pressed briefly. The buttons switch through the following operating modes: Comfort Mode: Value 1 Pre-Comfort Mode: Value 2 Energy Save Mode: Value 3 Protect Mode: Value 4					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Presence	1 Bit	1.001	CWT
This object is used to send an On telegram when the right button is pressed and an Off telegram when the left button is pressed. The direction of the buttons can be changed via a separate parameter.					

Object	Object name	Function	Type	DPT	Flags
1	Button Pair	Fan Coil, Auto/Manuel	1 Bit	1.001	CWT
This object is used to set the automatic / manual operation of a fan. Value 1 corresponds to automatic operation and 0 corresponds to manual operation. Automatic is sent if you press the left button when fan value = 0%. Manual is sent if you press the right button when operating mode = automatic.					
Object	Object name	Function	Type	DPT	Flags
2	Button Pair	Fan Coil, Rotation Speed	1 Byte	5.001	CWT
This object sends the rotation speed of a fan in % The speed is increased via the right button and reduced via the left button. The step size is as follows: Fan 1 stage: 0 / 100% Fan 2 stage: 0 / 50% / 100% Fan 3 stage: 0 / 33% / 66% / 100%					
Object	Object name	Function	Type	DPT	Flags
4	Keylock	On/Off	1 Bit	1.001	CWTU
This object can be used to lock the button pair. If a 1 is written into the object, no function is executed when the buttons are pressed.					

2.2 Communication objects for single button functions

Object	Object name	Function	Type	DPT	Flags
1	Button Left	Switch, On	1 Bit	1.001	CWT
An on telegram is sent via this object when the button is pressed.					
Object	Object name	Function	Type	DPT	Flags
1	Button Left	Switch, Off	1 Bit	1.001	CWT
An off telegram is sent via this object when the button is pressed					
Object	Object name	Function	Type	DPT	Flags
1	Button Left	Switch, Toggle	1 Bit	1.001	CWT
When the button is pressed, this object switches the value of the object between 0 and 1 and then sends it.					
Object	Object name	Function	Type	DPT	Flags
1	Button Left	Set Value, Value	1 Byte	5.005	CWT
This object sends the set value, between 0 and 255, when the button is pressed.					
Object	Object name	Function	Type	DPT	Flags
1	Button Left	Set Value, Value	1 Byte	5.005	CWT
When the button is pressed, this object switches between two set values and sends the new value.					
Object	Object name	Function	Type	DPT	Flags
1	Button Left	Presence, On/Off	1 Bit	1.001	CWT
When the button is pressed, this object switches the value of the object between 0 and 1 and then sends it.					

2.3 Communication objects for indoor air quality

The following communication objects are only displayed when configured appropriately .

Object	Object name	Function	Type	DPT	Flags
11	CO2 Concentration	Value	2 Byte	9.008	CRT
The CO2 concentration, which is measured by the internal sensor, is written into this object and then sent.					
Object	Object name	Function	Type	DPT	Flags
14	CO2 Fan-Coil Stage 1 Output	On/Off	1 Bit	1.001	CRT
This object switches on the first fan-coil stage of the CO2 fan.					
Object	Object name	Function	Type	DPT	Flags
15	CO2 Fan-Coil Stage 2 Output	On/Off	1 Bit	1.001	CRT
This object turns on the second fan-coil stage of the CO2 fan.					
Object	Object name	Function	Type	DPT	Flags
16	CO2 Fan-Coil Stage 3 Output	On/Off	1 Bit	1.001	CRT
This object turns on the third fan-coil stage of the CO2 fan.					
Object	Object name	Function	Type	DPT	Flags
17	CO2 Fan-Coil Speed	Value	1 Byte	5.001	CRT
This object controls the speed of the CO2 fan as a relative value between 0 and 100%.					
Object	Object name	Function	Type	DPT	Flags
20	Traffic Light Green	On/Off	1 Bit	1.001	CRT
The green light of the external CO2 traffic light can be controlled via this object.					
Object	Object name	Function	Type	DPT	Flags
21	Traffic Light Yellow	On/Off	1 Bit	1.001	CRT
The yellow light of the external CO2 traffic light can be controlled via this object.					
Object	Object name	Function	Type	DPT	Flags
22	Traffic Light Red	On/Off	1 Bit	1.001	CRT
The red light of the external CO2 traffic light can be controlled via this object.					
Object	Object name	Function	Type	DPT	Flags
23	RGB CO2 Traffic Light	Value	3 Byte	232.600	CRT
The external CO2 traffic light can be controlled via this 3 byte RGB object.					
Object	Object name	Function	Type	DPT	Flags
23	Traffic Light RGB, Red	Value	1 Byte	5.005	CRT
The color red of the external CO2 traffic light can be controlled via this 1 byte object.					

Object	Object name	Function	Type	DPT	Flags
24	Traffic Light RGB, Green	Value	1 Byte	5.005	CRT
This 1 byte object can be used to control the color green of the external CO2 traffic light.					
Object	Object name	Function	Type	DPT	Flags
25	Traffic Light RGB, Blue	Value	1 Byte	5.005	CRT
The color blue of the external CO2 traffic light can be controlled via this 1 byte object.					
Object	Object name	Function	Type	DPT	Flags
26	Actual Value external CO2 Sensor	Value	2 Byte	9.008	CWTU
The CO2 concentration, which is measured by an external sensor, can be written into this object. This value is used to determine the calculated CO2 content.					
Object	Object name	Function	Type	DPT	Flags
28	Actual Value internal Humidity Sensor	Value	2 Byte	9.007	CRT
The relative humidity, which is measured by the internal sensor, is written into this object and then sent.					
Object	Object name	Function	Type	DPT	Flags
29	Actual Value external Humidity Sensor	Value	2 Byte	9.007	CRT
The value of the relative humidity, which is measured by an external sensor, is written into this object. This value is used to determine the humidity.					

2.4 Communication objects for the room temperature controller

Piazza Sense is equipped with a powerful PI controller for heating and cooling systems. Depending on the parameter setting, objects 30-71 are available for the control.

Object	Object name	Function	Type	DPT	Flags
30	Actual Value internal Temperature Sensor	Value	2 Byte	9.001	CRT
This object provides the measured value of the internal temperature sensor. The measuring point is located in the middle behind the ventilation grille.					
Object	Object name	Function	Type	DPT	Flags
31	Actual Value external Temperature Sensor	Value	2 Byte	9.001	CWTU
This object provides the measured value of the external temperature sensor. The value can be measured by any temperature sensor.					
Object	Object name	Function	Type	DPT	Flags
32	Actual Value outside Temperature Sensor	Value	2 Byte	9.001	CWTU
This object provides the measured value of the outdoor temperature sensor. The value can be measured by any temperature sensor placed outside.					
Object	Object name	Function	Type	DPT	Flags
33	Calculated actual temperature	Value	2 Byte	9.001	CRT
Depending on the parameter settings, the weighted average value is calculated from the externally and internally received temperature values (objects 30 and 31). The calculation result is the current actual temperature value.					

Object	Object name	Function	Type	DPT	Flags
34	Base Setpoint Temperature	Value	2 Byte	9.001	CWTU
This object can be used to overwrite the base setpoint specified in the parameter settings via the KNX bus. If the reading flag "L" is set, the base setpoint value can be read via the KNX bus.					
Object	Object name	Function	Type	DPT	Flags
35	Base Setpoint Temperature Auto Mode	Value	2 Byte	9.001	CWTU
Use this object to overwrite the base setpoint specified in the parameter settings for the room mode "Automatic operation" via the KNX bus. If the reading flag "L" is set, the base setpoint can be read via the KNX bus.					
Object	Object name	Function	Type	DPT	Flags
36	Setpoint Deviation	Value	2 Byte	9.001	CWTU
This object receives a temperature value that is added as an offset to the internal setpoint. If the read flag "L" is set, the value of the setpoint deviation can be read via the KNX bus.					
Object	Object name	Function	Type	DPT	Flags
37	Setpoint Deviation Auto Mode	Value	2 Byte	9.001	CWTU
This object receives a temperature value that is added as an offset to the internal setpoint for the room mode "automatic operation". If the reading flag "L" is set, the value of the setpoint deviation can be read via the KNX bus.					
Object	Object name	Function	Type	DPT	Flags
38	Internal Setpoint Temperature	Value	2 Byte	9.001	CRT
This object provides the internal setpoint used to calculate the comparison between setpoint and actual valure. Together with the control parameters, the result provides the value of the control variable. The internal setpoint is calculated based on the base setpoint, the setpoint deviation and the room mode.					
Object	Object name	Function	Type	DPT	Flags
39	Room Mode Permanent Protection	On/Off	1 Bit	1.001	CWT
This object overrides the current operating mode and sets the controller to the continuous protection mode. In this operating mode, the internal setpoint is calculated from the base setpoint and the setpoint deviation minus the increase/decrease.					
Object	Object name	Function	Type	DPT	Flags
40	Controller Switch, On/Off	On/Off	1 Bit	1.001	CWT
The controller can be switched on or off via this object. If the value "1" is received via the KNX, the controller is switched on. The value "0" turns off the controller.					
Object	Object name	Function	Type	DPT	Flags
41	Switch Heating/Cooling	Heating/Cooling	1 Bit	1.001	CWT
This object can be used to switch the heating or cooling operating mode. If value "1" is received via the object, the controller is switched to heating mode. If value "0" is received via this object, the controller is switched to cooling mode. If the corresponding parameter is set, the switching takes place via an external event (for example, via a timer program).					
Object	Object name	Function	Type	DPT	Flags
42-45	Window Contact 1-4	Status, Open/Close	1 Bit	1.001	CWT
With these parameter settings, up to 4 window contacts can be evaluated via objects 42-45. If the value of one of these objects is "1", the controller switches to protection mode after a configurable time.					

Object	Object name	Function	Type	DPT	Flags
46	Presence activate	On/Off	1 Bit	1.001	CWT

This object overrides the current room mode and switches the controller with value "1" to room mode "Comfort". Value "0" reactivates the previously set operating mode.

Object	Object name	Function	Type	DPT	Flags
47	Room Operating Mode	Value	1 Byte	20.102	CWT

This object switches the room mode via an 8-bit value:
Value = 0: Automatic operation -> Basic setpoint automatic mode + setpoint deviation automatic mode
Value = 1: Operating mode Comfort -> base setpoint + setpoint shift
Value = 2: Operating mode Pre-comfort -> increase/decrease base setpoint
Value = 3: Energy saving operation -> increase/decrease base setpoint
Value = 4: Protection operation -> setpoint for frost/heat protection

Object	Object name	Function	Type	DPT	Flags
48	Room Operating Mode Status	Value	1 Byte	5.010	CRT

This object provides the room operating mode status via an 8-bit value:
Value = 0: Automatic operation -> base setpoint automatic operation + setpoint deviation automatic mode
Value = 1: Operating mode Comfort -> base setpoint + setpoint shift
Value = 2: Operating mode Pre-comfort -> increase/decrease base setpoint
Value = 3: Energy saving operation -> increase/decrease base setpoint
Value = 4: Protection operation -> setpoint for frost/heat

Object	Object name	Function	Type	DPT	Flags
49	Status Temperature Controller	Value	1 Byte	5.005	CRT

The controller status provides the status of the room operating mode bit encoded:
Bit 0 = 1b -> 1 Dec: Comfort mode
Bit 1 = 1b -> 2 Dec: Pre Comfort mode
Bit 2 = 1b -> 4 Dec: Energy Saving mode
Bit 3 = 1b -> 8 Dec: Protection mode

Object	Object name	Function	Type	DPT	Flags
50	Status Temperature Controller	Value	2 Byte	22.101	CRT

Provides the controller status according to RHCC. Only the following bits are evaluated. All other bits are set to value "0".
Bit 0: 0 = error, 1 = no error
Bit 8: 0 = cooling, 1 = heating
Bit 12: 1 = dew point alarm, 0 = no alarm
Bit 13: 1 = frost alarm, 0 = no alarm
Bit 14: 1 = heat alarm, 0 = no alarm

Object	Object name	Function	Type	DPT	Flags
51	Control Value 2-Point Controller, Heating	On/Off	1 Bit	1.001	CRT

This object is used for the output of the variable "Heating" calculated by the 2-point controller. How the binary output is switched, is defined in the controller parameters.

Object	Object name	Function	Type	DPT	Flags
51	Control Value PI, Heating and Cooling	Value	1 Byte	5.001	CRT

This object is used for the output of the control variable calculated by the PI controller during both "heating" and cooling. The control variable output is in the range of 0 to 100%. The way in which the output is controlled, is defined in the parameters.

Object	Object name	Function	Type	DPT	Flags
52	Control Value PI, Heating	Value	1 Byte	5.001	CRT

This object is used for the output of the control variable "Heating" calculated by the PI controller. The control variable output is in the range of 0 to 100%. The way in which the output is controlled, is defined in the parameters.

Object	Object name	Function	Type	DPT	Flags
53 und 54	Control Value Sequence 1 and 2, Heating	Value	1 Byte	5.001	CRT
Use these objects to control up to 2 heat sources in the range of 0-100% according to the parameter settings "control variable output" and "operating mode controller" -> PI controller with sequence control.					
Object	Object name	Function	Type	DPT	Flags
55	Additional Control Value, Heating	On/Off	1 Byte	1.001	CRT
These objects are used to control the additional binary output during heating. Activation is via the corresponding parameters. A temperature difference greater than the configured value leads to a switch. The mode of action can be either "Normal" or "Inverted".					
Object	Object name	Function	Type	DPT	Flags
56	Control Value 2-Point Controller, Cooling	On/Off	1 Bit	1.001	CRT
This object is used for the output of the "Cooling" control variable calculated by the 2-point controller. The way the binary output is switched, is defined in the controller parameters.					
Object	Object name	Function	Type	DPT	Flags
57	Control Value PI, Cooling	Value	1 Byte	5.001	CRT
Use this object for the output of the "Cooling" control variable calculated by the PI controller. The control variable output is in the range of 0 to 100%. The way in which the output is controlled, is defined in the parameters of the controllers.					
Object	Object name	Function	Type	DPT	Flags
58 und 59	Control Value Sequence 1 and 2, Cooling	Value	1 Byte	5.001	CWT
These objects are used to control up to 2 cooling sources in the range of 0-100% according to the parameter settings "Control variable output" and "Operating mode controller" -> PI controller with sequence control					
Object	Object name	Function	Type	DPT	Flags
60	Additional Control Value, Cooling	On/Off	1 Byte	1.001	CRT
These objects are used to control the additional binary output during cooling. This can be activated via corresponding parameters. A temperature difference greater than the configured value leads to a switch. The mode of action can be either "Normal" or "Inverted".					
Object	Object name	Function	Type	DPT	Flags
61	Fan-Coil Auto Mode	On/Off	1 Bit	1.001	CWT
The automatic operation of the fan can be switched on via this object. If this is activated, up to three fan stages are automatically switched depending on the configured control variable. The switch-on thresholds of the respective stages can be configured. Three binary outputs (object 68, 69, 70) and one continuous output (0-100%) (object 64) are available as output stages for fan levels 1,2 and 3. If the value of the automatic object is "0", the fan stages can be controlled manually via objects (65, 66, 67 or 63).					
Object	Object name	Function	Type	DPT	Flags
62	Status Fan-Coil Automatic mode	On/Off	1 Bit	1.001	CRT
This object provides the status of the automatic mode. If value = "1", the fan stages are switched depending on the output size. If value = "0", the fan stages can only be switched manually.					
Object	Object name	Function	Type	DPT	Flags
63	Fan-Coil Rotation Speed Input	Value	1 Byte	5.001	CRT
The object provides the status of the current fan rotation speed in a value range of 0-100%					

Object	Object name	Function	Type	DPT	Flags
64	Fan-Coil Rotation Speed Output	Value	1 Byte	5.001	CWT
The fan is controlled via this object depending on the configured control variable. The switch-on thresholds of the respective stages can be configured. A continuous output (0-100%) is available as output stage for fan levels 1,2 and 3.					
Object	Object name	Function	Type	DPT	Flags
65-67	Fan-Coil Stage 1-3 Input	On/Off	1 Bit	1.001	CWT
The manual switching events for the three fan levels 1, 2 or 3 are received via the input objects 65, 66, 67 and set the corresponding output objects 68, 69, 70. These switch the fan stages. The current switching status can be displayed as a status in the OLED display.					
Object	Object name	Function	Type	DPT	Flags
68-70	Fan-Coil Stage 1-3 Output	On/Off	1 Bit	1.001	CRT
The output objects 68, 69, 70 switch the fan stages and are locked against each other. This means if the switch-on value "1" of one stage is set, the switch-on values of the other two levels are set to the value "0". If object 61 has the value "1", the stages are automatically switched in accordance with the corresponding control variable, for example cooling. If the object value is 61 "0", the fan stages are switched via objects 65-67.					
Object	Object name	Function	Type	DPT	Flags
71	Status Comfort Extension	On/Off	1 Bit	1.001	CRT
The status of the comfort extension can be queried via this object.					

2.5 Alarm communication objects

Up to 9 alarm notifications can be issued in piazza sense. Alarm notifications of general alarms 1-3 as well as frost, heat, dew point, humidity and CO2 alarm can be configured as static text and output on the display when the alarm is triggered. For the text alarm it is possible to import a text via the 14 byte object and show it on the display.
In addition, it is possible to have an additional acoustic signal for all alarms. The text output and acoustic signal can be interrupted at the touch of a button. In this case the display returns to the configured default screen. If the alarm persists, a frame will flash on the display. It automatically stops if the alarm has been deactivated via an object. If there are several different alarms in a row, they are stored in chronological order. The last alarm can always be seen on the display. If you confirm receipt of the alarm by pressing a button, the penultimate alarm will appear on the display. This way all 9 alarms can be saved in chronological order. The most up-to-date alarm always appears first.

Object	Object name	Function	Type	DPT	Flags
72	Alarm 1	Active/Inactive	1 Bit	1.005	CWTU
73	Alarm 2	Active/Inactive	1 Bit	1.005	CWTU
74	Alarm 3	Active/Inactive	1 Bit	1.005	CWTU
If a previously set value (0 or 1) is received via this object, the alarm is activated.					
Object	Object name	Function	Type	DPT	Flags
75	Textalarm	String	14 Byte	16.000	CWTU
If a text is received via this object, the alarm is activated and the received text is displayed on the display.					
Object	Object name	Function	Type	DPT	Flags
76	Dew-Point Alarm	Active/Inactive	1 Bit	1.005	CWTU

If a dew point monitor sends the value "1" via this object, the controller internally switches to "dew point operation". In this room mode, the control variable "Cooling" is set to value "0".

Object	Object name	Function	Type	DPT	Flags
77	Freeze Alarm	Active/Inactive	1 Bit	1.005	CRT

If the value is below the threshold value set in the parameters, the object is set to value 1 so that a frost alarm is triggered. The controller regulates the heating in line with the configured frost protection setpoint value, for example, 5°C.

Object	Object name	Function	Type	DPT	Flags
78	Heat Alarm	Active/Inactive	1 Bit	1.005	CRT

If the threshold value set in the parameters is exceeded, the object is set to value 1 so that a heat alarm is triggered.

Object	Object name	Function	Type	DPT	Flags
79	CO2 Alarm	Active/Inactive	1 Bit	1.005	CRT

If the threshold value set in the parameters is exceeded, the object is set to value 1 so that a CO 2 alarm is triggered.

Object	Object name	Function	Type	DPT	Flags
80	Humidity Alarm	Active/Inactive	1 Bit	1.005	CRT

If the threshold value set in the parameters is exceeded, the object is set to value 1 so that a humidity alarm is triggered.

2.6 General communication objects

Object	Object name	Function	Type	DPT	Flags
81	Night mode	Ein/Aus	1 Bit	1.001	CWTU

Use this object to activate night mode.

Object	Object name	Function	Type	DPT	Flags
82	Display number	Value	1 Byte	5.005	CWTU

Use this object to change the current display page.

2.7 Display communication objects

The following communication objects are only displayed with the appropriate configuration and can contain different data point types.

Object	Object name	Function	Type	DPT	Flags
83	Screen 1 Status 1	Value	X	X.XXX	CWTU

This object reads the value of the corresponding status and displays it on screen 1 in the upper line.

Object	Object name	Function	Type	DPT	Flags
84	Screen 1 Status 2	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 1 for status 2.					

Object	Object name	Function	Type	DPT	Flags
85	Screen 1 Status 3	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 1 for status 3.					

Object	Object name	Function	Type	DPT	Flags
86	Screen 1 Status 4	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 1 for status 4.					

Object	Object name	Function	Type	DPT	Flags
87	Screen 1 Status 5	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 1 in the bottom line.					

Object	Object name	Function	Type	DPT	Flags
89	Screen 2 Status 1	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 2 in the upper line.					

Object	Object name	Function	Type	DPT	Flags
90	Screen 2 Status 2	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 2 in line two.					

Object	Object name	Function	Type	DPT	Flags
91	Screen 2 Status 3	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 2 in line three.					

Object	Object name	Function	Type	DPT	Flags
92	Screen 2 Status 4	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 2 in line four.					

Object	Object name	Function	Type	DPT	Flags
93	Screen 2 Status 5	Value	X	X.XXX	KSÜA
This object reads the value of the corresponding status and displays it on screen 2 in line five.					

Object	Object name	Function	Type	DPT	Flags
94	Screen 2 Status 6	Value	X	X.XXX	KSÜA
This object reads the value of the corresponding status and displays it on screen 2 in the bottom line.					

Object	Object name	Function	Type	DPT	Flags
95	Bildschirm 3 Status 1	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in the upper line.					

Object	Objektname	Function	Type	DPT	Flags
96	Screen 3 Status 2	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in line two.					
Object	Object name	Function	Type	DPT	Flags
97	Screen 3 Status 3	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in line three.					
Object	Object name	Function	Type	DPT	Flags
98	Screen 2 Status 4	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in line four.					
Object	Object name	Function	Type	DPT	Flags
99	Screen 2 Status 5	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in line five.					
Object	Object name	Function	Type	DPT	Flags
100	Screen 2 Status 6	Value	X	X.XXX	CWTU
This object reads the value of the corresponding status and displays it on screen 3 in the bottom line.					

3 Overview of ETS parameters

The Piazza Sense ETS parameters are divided across different parameter pages. Some parameter pages are shown or hidden depending on certain parameter settings.

3.1 General Settings

This parameter page is used for the general settings of the control panel. Values marked in bold are default values.

3.1.1 General

Parameter	Settings
Status Read Request after Reset	No Request 1 Second after Bus Reset 2 Seconds after Bus Reset **3 Seconds after Bus Reset** **....** 20 Seconds after Bus Reset
This parameter is used to specify if and after what time a status query should be sent after the bus reset.	

Parameter	Settings
Delay between individual Read Requests	0 msec 100 msec **200 msec** 300 msec 400 msec 500 msec
This parameter defines the delay between individual read requests	

Parameter	Settings
Beep if button pressing activate	No **Yes**
This parameter can be used to activate the beep when the button is pressed.	

Parameter	Settings
Object Typ for Date and Time	**2 separate Objects (2 x 3 Byte)** 1 common Object (8 Byte)
Use this parameter to determine the object type for date and time.	

Parameter	Settings
Time Format	**24h** 12h
Use this parameter to set the time format.	

Parameter	Settings
Date Format	**DD.MM.JJ** MM.DD.JJ
Use this parameter to set the date format.	

3.2 Button Function

The parameter groups "Button Function" contain the parameter page for the configuration of the existing capacitive buttons. The two buttons can be configured both as a button pair and as individual buttons.

3.2.1 Button Function

Parameter	Settings
Function of Buttons	No Function Switch screen Switch On/Off Set Value fix Set Value in Steps **Setpoint Deviation** Room Mode Setting Presence Fan-Coil Setting Single Buttons
Use this parameter to set the required function of the button pair.	

Parameter	Settings
Object for key lock available	**No/**Yes
Use this parameter to specify if you want the object for key lock activation to be available.	

Parameter	Settings
Direction of Buttons	Left: Off/Down, Right: On/Up **Left: On/Up, Right: Off/Down**
This parameter can be used to specify the type of telegrams for the right/left button (button direction).	

Parameter	Settings
Value if pressing left button 0..255 = 0..100%	**0** [0..255]
This parameter sets the value that is sent when the left button is pressed.	

Parameter	Settings
Value if pressing right Button 0..255 = 0..100%	**255** [0..255]
This parameter sets the value that is sent when the right button is pressed.	

Parameter	Settings
Step Size Value if pressing Button	**10%** 20% 25% 33% 50%
This parameter defines the step size by which the value is increased or decreased when the button is pressed.	

Parameter	Settings
Step Size on Button press	0,5 K 0,8 K **1 K** 1,2 K 1,5 K 2 K 2,5 K
Use this parameter to set the increment size of the setpoint value adjustment when the button is pressed.	

Parameter	Settings
Number of available Setpoint Steps	**+/- 3 Steps** +/- 4 Steps +/- 5 Steps +/- 6 Steps
This parameter is used to set the number of available steps for setpoint adjustment.	

Parameter	Settings
Usage Internal for Room Temperature Controller	**Yes**/No
This parameter determines whether the setting for the internal controller is valid or not.	

Parameter	Settings
Possible Room Operating Modes	**All possible Operation Modes** Comfort-/Energysave Comfort-/Energysave-/Protect-Mode
Use this parameter to determine which operating modes can be set by pressing the buttons. The operating modes are represented by the following values in the object: Automatic mode: Value 0 Comfort mode: Value 1 Pre-comfort mode: Value 2 Energy saving mode: Value 3 Protection mode: Value 4	

Parameter	Settings
Usage Internal for Room Temperature Controller	**Yes**/No
This parameter determines whether the setting for the internal controller is valid or not.	
Parameter	Settings
Number of Fan-Coil Stages	1 Stage (0/100%) 2 Stages (0/50/100%) **3 Stages (0/33/66/100%)**
This parameter is used to set how many fan levels can be set when the button is pressed.	
Parameter	Settings
Fan-Coil Stage 1 Output 0..255=>0..100%, 33% = 85	**85** [0..255]
This parameter determines the value that is sent to the object when the first fan-coil stage is switched on.	
Parameter	Settings
Fan-Coil Stage 2 Output 0..255=>0..100%, 66% = 170	**170** [0..255]
This parameter determines the value that is sent to the object when the second fan-coil stage is switched on	
Parameter	Settings
Fan-Coil Stage 3 Output 0..255=>0..100%, 100% = 255	**255** [0..255]
This parameter determines the value that is sent to the object when the third fan-coil stage is switched on.	
Parameter	Settings
Function of left Button	No Function Switch On Switch Off **Toggle** Set Value Fix Toggle Value Presence
This parameter sets the function when the left button is pressed.	
Parameter	Settings
Function of right Button	No Function Switch On Switch Off **Toggle** Set Value Fix Toggle Value Presence
This parameter sets the function when the right button is pressed.	

Parameter	Settings
Show Status on Display	**Yes**/No
This parameter determines whether the selected function should be displayed on the display.	
Parameter	Settings
Function Name	**e.g.: Light**
With this parameter, a name can be assigned to the button function. This is shown on the display when the button is pressed.	
Parameter	Settings
Show Status as	Text**/Icon**
This parameter determines whether the status of the function should be shown in the display as text or as a symbol.	
Parameter	Settings
Text at Value 0	**e.g.: Off** [String: 14 Symbols]
With this parameter, the corresponding status text can be specified.	
Parameter	Settings
Type of the Icon	**Bulb** Bulb inverse Socket Socket inverse Lock Lock inverse Speaker Speaker inverse
With this parameter, the corresponding symbol can be selected.	

3.3 Indoor Air Quality

The parameter groups "Indoor air quality" contain the parameter pages for the configuration of the indoor air quality sensors. This is where the CO2 sensor and humidity sensor are configured. In addition, the ventilation control can be activated depending on air quality.

3.3.1 CO2 Sensor

Parameter	Settings
Altitude above Sea Level (Value*1m)	**0** [0..2000]
This parameter specifies the altitude above sea level according to the location. This improves measurement accuracy.	
Parameter	Settings
External CO2 Sensor available	**No**/Yes
This parameter can be used to set whether an external CO2 sensor is present.	

Parameter	Settings
Cycle Time for Sensor Request external CO2 Sensor	inactive **5 Minutes** 10 Minutes 15 Minutes 20 Minutes 30 Minutes 45 Minutes 60 Minutes 90 Minutes 2 Hours
Use this parameter to determine how often the external CO2 sensor, if available, should be queried.	

Parameter	Settings
Ratio between internal and external Co2 Sensor	Internal only 90% Internal – 10% External 80% Internal – 20% External 70% Internal – 30% External 60% Internal – 40% External **50% Internal – 50% External** 40% Internal – 60% External 30% Internal – 70% External 20% Internal – 80% External 10% Internal – 90% External External only
Use this parameter to determine the weighting of the two CO2 sensors when calculating the current CO2 value.	

Parameter	Settings
Cycle Time for cyclical sending actual CO2 Value	Inaktive 10 s 30 s 1 Minute 3 Minutes 5 Minutes **10 Minutes** 15 Minutes 20 Minutes 30 Minutes
This parameter can be used to determine whether and how often the current CO2 value should be sent cyclically via the bus.	

Parameter	Settings
Send actual CO2 Value when Change by	Inaktive +/- 50 ppm +/- 100 ppm +/- 150 ppm +/- 200 ppm +/- 250 ppm
This parameter specifies whether the current CO2 value should be sent via the bus if a change is made.	

Parameter	Settings
CO 2 Traffic Light available	No/**Yes**
This parameter can be used to determine whether the actual indoor air quality should be represented by an integrated traffic light. **Note on the CO2 traffic light:** When the CO2 concentration increases and the first threshold value is reached, the traffic light switches from green to yellow. When the second threshold is exceeded, the traffic light changes from yellow to red. As long as the concentration is above the second threshold, the traffic light remains red. If the concentration drops and falls below the second threshold value, the traffic light shows yellow and red at the same time. This is intended to signal that the air quality is improving and that the measures taken to improve air quality (e.g: open windows, turn on ventilation) are working.	
Parameter	Settings
Traffic Light Threshold 1 (Value in ppm)	**700** [400..40000]
This parameter can be used to determine the concentration of the CO2 value at which the traffic light should change from green to yellow.	
Parameter	Settings
Traffic Light Threshold 1 (Value in ppm)	**1200** [400..40000]
This parameter determines the concentration of the CO2 value at which the traffic light should change from yellow to red.	
Parameter	Settings
Switch off Traffic Light in Night Mode	**Yes/**No
This parameter determines whether the CO2 traffic light should be switched off in night mode.	
Parameter	Settings
Wake up LEDs if a Button pressed	No waking up for 3 s for 5 s **for 10 s** for 20 s for 30 s for 1 min
This parameter determines whether the CO2 traffic light in night mode should be switched on for a certain time when a button is pressed.	
Parameter	Settings
External CO2 Traffic Light available	**No/**Yes
This parameter determines whether an external CO2 traffic light should be available. During activation, three 1-bit objects are displayed for the colors green, yellow and red.	
Parameter	Settings
RGB Object for CO2 Traffic Light available	**No/**Yes
Use this parameter to specify whether an additional RGB object should be available for external CO2 traffic lights.	
Parameter	Settings
Object Type RGB Traffic Light	3 Byte combined Object **3 separate Objects**
Use this parameter to specify which object type the additional RGB traffic light should have.	
Parameter	Settings
IAQ Fan-Coil available	**No**/Yes
This parameter can be used to determine whether the fan control should be activated depending on CO2 concentration.	

3.3.2 Air Quality Fan

Parameter	Settings
Number of Fan Coil Stages	1 Stage (0/100%) 2 Stages (0/50/100%) **3 Stages (0/33/66/100%)**
This parameter determines the number of available fan-coil stages.	
Parameter	Settings
Fan-Coil Stage 1 Start from (Value in ppm)	**600** [400..40000]
Sets the threshold value of the CO2 concentration at which the first fan stage should be switched on.	
Parameter	Settings
Fan-Coil Stage 1 Output 0..255=>0..100%, 33% = 85	**85** [0..255]
This parameter specifies the value that is sent to the object when the first fan stage is switched on.	
Parameter	Settings
Fan-Coil Stage 2 Start from (Value in ppm)	**800** [400..40000]
This parameter defines the threshold value of the CO2 concentration at which the second fan stage should be switched on.	
Parameter	Settings
Fan-Coil Stage 2 Output 0..255=>0..100%, 66% = 170	**170** [0..255]
This parameter specifies the value that is sent to the object when the second fan stage is switched on.	
Parameter	Settings
Fan-Coil Stage 3 Start from (Value in ppm)	**1000** [400..40000]
Defines the threshold value of the CO2 concentration at which the third fan stage should be switched on.	
Parameter	Settings
Fan-Coil Stage 3 Output 0..255=>0..100%, 100% = 255	**255** [0..255]
This parameter specifies the value that is sent to the object when the third fan stage is switched on.	

3.3.3 Humidity sensor

Parameter	Settings
Offset for internal Humidity Sensor (in %)	**0** [-100...100]
This parameter can be used to set an offset for the internal humidity sensor.	
Parameter	Settings
Cycle Time for cyclical sending actual Humidity Value	Inactive 10 s … **10 Minutes** … 30 Minutes
This parameter determines whether and how often the current humidity value should be sent cyclically via the bus.	

Parameter	Settings
Send actual Humidity Value when Change by	Inactive 1 % 3 % 5 % **10 %** **…** 50 %
Specifies whether the current humidity value should be sent via the bus if a change is made.	

Parameter	Settings
External Humidity Sensor available	**No**/Yes
This parameter defines whether an external humidity sensor is available.	

Parameter	Settings
Offset for external Humidity Sensor (in %)	**0** [-100...100]
This parameter can be used to set an offset for the external humidity sensor.	

Parameter	Settings
Cycle Time for Sensor Request external Humidity Sensor	Inactive 5 Minutes **10 Minutes** 15 Minutes 20 Minutes 30 Minutes 45 Minutes 60 Minutes 90 Minutes 2 Hours
This parameter specifies how often the external humidity sensor, if available, should be queried.	

Parameter	Settings
Ratio between internal and external Humidity Sensor	Internal only 90% Internal – 10% External 80% Internal – 20% External 70% Internal – 30% External 60% Internal – 40% External **50% Internal – 50% External** 40% Internal – 60% External 30% Internal – 70% External 20% Internal – 80% External 10% Internal – 90% External External only
This parameter can be used to determine the weighting of the two humidity sensors when calculating the current humidity value.	

3.4 Room Temperature Controller

The Piazze Sense room temperature controller has three basic operating modes.
You can choose between only heating, only cooling and both heating and cooling.
Depending on which operating mode is selected, some parameters are shown or hidden.
If you choose the heating and cooling combination, you can choose whether you have a combined heating and cooling system or two separate systems. If you have a combined system, then both heating and cooling are controlled via the same output objects. For separate systems, separate objects are available.

For all three operating modes you can choose between 2-point controllers, Pi controllers and PI controllers with sequence control.

2-Point Controller
With the 2-point controller, a hysteresis must be defined for the upper and lower limit at which the controller is to be switched on or off. A value of, for example, 0.5 K in heating mode means that the output is switched on at a temperature "setpoint – 0.5 K" and switched off at the temperature "setpoint + 0.5 K". In cooling mode, the controller behaves exactly the opposite. The hysteresis is needed to avoid constant switching of the controller near the setpoint. A 1-bit object is available as the output. The function of the source object can be inverted if necessary.

Pi Controller
Principally, the control variable (V) of the controller is calculated from the deviation of the setpoint and actual value. The result of this calculation is the control deviation (T 0-T). In order to determine the control variable of the controller, this control deviation is processed together with a proportional and an integral part. The control deviation is amplified by the proportional factor meaning

$$V = (T_0\text{-}T)*K$$

The I-part adds up a time-dependent part of the rule deviation. The result of the calculation of the P-part and I-part is the control variable, which is scaled to the output format 0-100% (Calculated output variables > 100% are cut off).

A P-part alone would mean that the target value is never reached. The fact that the I-part makes the control variable become larger and larger, can lead to an overshoot. As a result, the I-proportion would be negative, which would lead to the control size becoming smaller. This interplay leads to the setpoint value being reached due to ever smaller control deviations (setpoint minus actual value = 0). The I portion is amplified by the readjustment time (N), so that the I-part can be described as follows:

$$V(t) = \frac{1}{N}\int_0^t (T0 - T)\, dt$$

The adjustment time, for example, N = 30 min means that at the time t = 0 the initial value V(t) after 30 min has reached the size of the constant input value (T 0-T)(t). Thus, the adjustment time determines how quickly the output quantity reaches the value 100%.

Pi Controller with Sequence
Basically, this is still the Pi controller as described above. The difference is that the output size is divided into two outputs. The parameter "Start value for sequence 2" determines from which value onwards the second output quantity is switched on. The value 50 would mean that the second source object is also switched when 50% are reached. The first 50% for the first output object are scaled up to 0 to 100% and the further 50% for the second output object to 0 to 100%. This operating mode is suitable, for example, for heating systems that have two different heating circuits such as one underfloor heating and one conventional radiator. The underfloor heating with sequence 1 and the conventional radiators with sequence 2.

Internal setpoint
The internal setpoint depends on several parameters and is constantly re-assessed and calculated. First, the base setpoint is set via the appropriate parameters. This serves as internal setpoint for the control in Comfort room mode. This value can be changed by moving the setpoint within a specified range. The setpoint shift can be done either by pressing the buttons or through an object via the bus. If the room mode is changed to e.g. Pre-comfort or Energy Saving mode, the basic setpoint is lowered by the correspondingly configured value in heating mode and raised in cooling mode. If the room mode is set to protection mode, the setpoint takes on the pre-set fixed values, e.g.5 °C for frost protection and 32 °C for heat protection. If the current room mode is set to a value other than Comfort, the setpoint value can also change for a limited time by activating the comfort extension. Depending on the outside temperature, the setpoint can change in cooling mode in such a way that a pre-configured difference between inside and outside temperature is not exceeded.

This is how the internal setpoint value for the Pre-Comfort room mode in heating mode is determined.

Internal Setpoint = Base Setpoint + Setpoint Deviation - Reduktion Pre-Comfort

Calculated Actual Temperature
The calculated actual value, which is required for the comparison between actual and target value, results from the value measured by the integrated temperature sensor and the value of any existing external temperature sensor. An offset can be set for each sensor to better adapt the sensors to the specifics of the environment. In addition, you can select the weighting of the two sensors, which is taken into account when calculating the actual temperature.

Fan-Coil Control
A fan-coil control can also be activated both in heating and cooling mode, in combination with the Pi controller. If this is set to automatic operation, the fan rotation speed is controlled depending on the control variable. Up to 3 stages can be parameterized. The individual stages are locked against each other, so that only a single stage can be active at any time. If you set the fan operation to manual control, then you can set the desired fan level either via the buttons or the corresponding objects.

Room operating modes and comfort extension
Five different room operating modes are provided. The mode can be set either via the buttons or via the corresponding communication object. The following operating modes are possible.

- Automatic mode (Value 0)
- Comfort mode (Value 1)
- Pre-comfort-mode (Value 2)
- Energy saving mode (Value 3)
- Protection mode (Value 4)

If the Automatic operating mode is set, the setpoint, setpoint shift and operating mode must be controlled via separate objects. The comfort extension is ignored in this case.
If the operating mode is set to Pre-comfort or Energy Saving mode, the controller can be put into comfort mode by activating presence. If the energy-saving mode was set before the comfort extension, it is automatically switched on again after the preset time has elapsed. If Pre-comfort mode has been set, the comfort mode remains for as long as the presence remains active.

3.4.1 General

Parameter	Settings
Controller Mode	Service station only Controller, only Heating Controller, only Cooling **Controller, Heating and Cooling**
This parameter can be used to set the operating mode of the internal room temperature controller. With the setting "Service station only", the internal temperature controller is deactivated and only the parameter page "Temperature measurement", ... is displayed. During "heating only" or "cooling only", the controller is only active below or above the set temperature and corresponding control values for heating and cooling are set. With the "heating and cooling" setting, the controller becomes active both below and above the set temperature and sets the corresponding control values.	
Parameter	Settings
Change Heating/Cooling is adjusted by external Object	Yes / **No**
If this parameter is set to value "No", the controller switches independently between heating and cooling operating modes, taking into account the dead time (parameter "temperature setpoint"). If the parameter is set to yes, the object "Switching Heating/Cooling" switches between heating and cooling modes.	

Parameter	Settings
Behaviour after Reset	Keep last Object Value **Use ETS Parameter below** Send Read Request
This parameter sets how the controller should behave after a voltage return.	
Parameter	Settings
Controller Mode after Reset	**Heating**/Cooling
This parameter sets whether the controller should go into heating or cooling mode after a voltage return.	
Parameter	Settings
Deadzone between Heating and Cooling	+/- 0 K +/- 0,25 K **+/- 0,5 K** +/- 0,75 K +/- 1 K +/- 1,5 K +/- 2 K +/- 2,5 K
If the controller is regulated, i.e. the target / actual value comparison has value 0, the control variables for heating or cooling are also 0%. To ensure that small fluctuations around the setpoint do not cause the controller to continuously switch between heating and cooling mode, a dead zone (hysteresis) can be defined in which the controller is inactive.	
Parameter	Settings
Fan-Coil Operation Mode	**No Fan Coil Operation** Fan Coil Operation in Heating Mode only Fan Coil Operation in Cooling Mode only Fan Coil Operation in Heating + Cooling Mode Fan Coil Operation via external Actuator
This parameter sets whether fan-coil operation should be available. An automatic control of the fan depending on the control variable of the temperature controller is only possible in conjunction with a Pi controller.	
Parameter	Settings
Stepsize Setpoint Deviation	0,5 K 0,8 K **1 K** 1,2 K 1,5 K 2 K 2,5 K
If a button pair is configured with the setpoint deviation parameter, the setpoint can be increased or decreased by the set value with each pressing of the button. Steps in one or the other direction can be configured as status of display 1 and 2 at the bottom of the display. For example, if the step size is set to 1 K and the setpoint deviation button is pressed once in the direction of "+", the first box to the right of the center lights up.	
Parameter	Settings
Deviation of Setpoint	**+/- 3 Steps** +/- 4 Steps +/- 5 Steps +/- 6 Steps
This parameter specifies the increment size of the setpoint deviation. Usually the step size is +/- 3K. If a step size of, for example, +/- 5 steps is set, the range of the setpoint shift can be extended accordingly.	
Parameter	Settings
Reset Setpoint Deviation on Room Mode Change	**No/**Yes
This parameter specifies whether the setpoint deviation should be reset to 0K when changing the room mode.	

Parameter	Settings
Behaviour after Reset	Keep last Object Value **Set Setpoint Deviation to 0 K** Send Read Request
This parameter determines how the setpoint deviation should behave after the bus reset.	

Parameter	Settings
Number of Window Contacts	**No Window Contacts** 1 x Window Contacts 2 x Window Contacts 3 x Window Contacts 4 x Window Contacts
This parameter determines how many window contacts there should be.	

Parameter	Settings
Invert Window Contacts	**No/**Yes
This parameter specifies whether the window contacts should be inverted.	

Parameter	Settings
Reaction Time on Window opening in Seconds	**30** [0..180]
This parameter specifies the response time after which the temperature controller is switched off. This prevents the heating in winter or the cooling in summer from running unnecessarily if the windows are open.	

3.4.2 Operating mode controller

The operating mode for the activated controllers can be set on this parameter page

Parameter	Settings
Controller Method Cooling	2 Point Controller **PI Controller** PI Controller with Sequence
This parameter sets the general controller method for the heating operation. As a 2-point controller, the controller switches off when the setpoint temperature is reached. If the defined threshold value is not reached (hysteresis, see parameter "Heating 2-point controller"), the controller switches back on again in line with the "cycle time for sending the output value". With the PI-Controller setting, the controller works as a continuous controller. The setpoint-actual value comparison together with the P and I parts provides the calculation basis for the initial variable. With the setting "PI controller with sequence control", a room can be heated in two different ways. We recommend you control the two heat sources one after the other. If the room temperature is below the setpoint, the control variable of sequence 1 is first opened at 100%. If the set temperature is not reached as a result, sequence 2 adds the second heat source. When the set temperature is reached, sequence 2 shuts down the second heat source again. This means that for PI with sequence control, the calculated control variable is converted to the control variables of sequence 1 and 2. The sequence refers to the control variable calculated by the controller so that the controller does not know the sequence. You can adjust from which internal control variable onwards sequence 2 should begin.	

Parameter	Settings
Duration of Comfort Extension	Inactive 1 Minute … **30 Minutes** … 2 Hours
If a time is configured in minutes or hours and the operating mode "Pre-Comfort" or "Energy-saving" are set, the comfort mode is extended by the configured time if presence has been activated. After the set time has elapsed, the mode returns to the original room operating mode.	

Parameter	Settings
Status Object for Comfort Extension existing	**No**/Yes
If this parameter value is set to "Yes", an additional object (No. 48) is available. If the value of the object = 1, the controller is in "Comfort Extension" mode. This object can be used, for example, to display the state of the object extension in a visualization.	
Parameter	Settings
Common Object for Heating and Cooling	**No**/Yes
This selection is only possible if the PI controller is configured for both heating and cooling.	

3.4.3 Heating: 2-Point Controller

This prameter page is used to configure the 2 point controller for heating operation.

Parameter	Settings
Hysteresis 2 Punkt Controller	0,1 K **0,2 K** 0,3 K 0,4 K 0,5 K
Hysteresis for the deviation of the setpoint as switching point for the controller.	
Parameter	Settings
Cycle Time for sending Output Value	Inactive … **10 Minutes** … 2 Hours
Specifies the time in which the initial value is sent cyclically.	
Parameter	Settings
Invert Function of Valve	**No/**Yes
The closing function of the valve can be adjusted. In normal function, the valve opens at 1 and in inverted function at 0.	
Parameter	Settings
Additional Control Value Output available	**No/**Yes
This parameter activates the additional control value output. If activated, a 1Bit object is switched on if the difference between the setpoint and actual temperature is greater than the value specified in the parameter.	
Parameter	Settings
Offset to Setpoint Temperature	1 K **2 K** … 10 K
This parameter defines the offset to the setpoint temperature.	
Parameter	Settings
Invert Additional Control Value Output	**No/**Yes
This parameter sets the closing function of the valve for the additional control value output. In normal function, the valve opens at 1 and in inverted function at 0.	

3.4.4 Heating: PI Controller (With and without Sequence Control)

Parameter	Settings
Proportional Band Heating	1 K … **5K** … 10 K
With this parameter, the P-part of the PI controller can be adapted to the control behavior of the room.	
Parameter	Settings
Integration Time Heating	5 Minutes … **30 Minutes** … 120 Minutes
With this parameter, the adjustment time of the PI controller can be adapted to the control behavior of the room.	
Parameter	Settings
Type of Control Value Output Heating	**1 Byte** 1 Bit
Selects the output format of the control value. In 1 byte format, the control value can be between 0% and 100%. In 1 bit format, the control value can only be 0 or 1.	
Parameter	Settings
Invert Control Value Heating	**No/**Yes
Use this parameter to adjust the closing function of the valve. In normal function, the valve opens at 100% and in inverted function at 0%.	
Parameter	Settings
Minimum Output Value for Heating Valve	**0** [0..50]
With this parameter, the minimum output value can be defined.	
Parameter	Settings
Maximum Output Value for Heating Valve	**100** [50..100]
With this parameter, the maximum output value can be defined.	
Parameter	Settings
Scaling 100% to	**100** [50..100]
With this parameter, the control value output can be scaled to a range of 50% to 100%.	
Parameter	Settings
Deviation for automatical sending Control Value Heating	1 % … **5 %** … 25 %
Use this parameter to set the percentage by which the control value needs to change so that it is sent automatically.	

Parameter	Settings
Cycle Time for cyclical sending Control Value Heating	1 Minute … **10 Minutes** … 120 Minutes
Use this parameter to select the cycle time for cyclical sending of the control value.	

Parameter	Settings
Output Heating always ON from [Value in %]	**98** [50..100]
With this parameter, the value can be set from which the output should remain permanently switched on.	

Parameter	Settings
Output Heating always OFF from [Value in %]	**2** [0..50]
With this parameter, the value can be set from which the control value output should remain permanently switched off.	

Parameter	Settings
Period Length for Switching Output Heating	1 Minute … **10 Minutes** … 120 Minutes
The output of the control value of the PI controller can be a switching object. In this case, the signal is pulse width modulated. The corresponding period length for the PWM signal can be set with this parameter.	

The following parameter appears when the PI Controller with sequence control method is selected.

Parameter	Settings
Sequence 2 starts on Value Heating	**50** [5..100]
This parameter sets the value from which the second sequence, i.e. the second value output, is switched on. If you set the value 50, the internal control value is scaled so that 0 - 50% corresponds to the 0 -100% of the first sequence and 50 - 100% to the 0 -100% of the second sequence. This makes it possible to combine two different types of heating with each other. For example, underfloor heating and conventional radiators.	

All parameters for cooling are identical to the above parameters for heating and can be configured exactly the same way.

3.4.5 Temperature setpoint

Room operating mode

Parameter	Settings
Behaviour after Reset	Keep last Object Value **Use ETS Parameter below** Send Read Request
With this parameter, the behavior of the room mode can be configured after the bus reset.	

Parameter	Settings
Room Operation Mode after Reset	Automatic Mode Comfort **Pre-Comfort** Energie-Save Protection Mode
Use this parameter to select the room operating mode after the bus reset.	

Sollwerttemperatur

Parameter	Settings
Behaviour after Reset	Keep last Object Value **Use ETS Parameter below** Send Read Request
Configures the behavior of the setpoint temperature after the bus reset.	

Parameter	Settings
Base Setpoint after Busreset	16 °C … **21 °C** … 26 °C
Selects the base setpoint after the bus reset.	

The control values of the controller are calculated depending on the base setpoint, the setpoint deviation and the active operating mode. From these dependencies, the "internal setpoint" (object 38) is calculated, which represents the input value for the setpoint/actual value comparison. In "Comfort" mode, the base setpoint (object 34) is taken into account for the calculation of the internal setpoint. In "Automatic" mode, the base setpoint (object 35) is taken into account for the calculation of the internal setpoint. For all other room modes, the set temperature is decreased or increased by a fixed value from the base setpoint.

Parameter	Settings
Increase/Reduction if Operation Mode Pre-Comfort	1 K … **2 K** … 6 K
This parameter determines the temperature value by which the base setpoint in "Pre-Comfort" mode is decreased in heating mode and increased in cooling mode.	

Parameter	Settings
Increase/Reduction if Operation Mode Energy-Save	1 K … **4 K** … 6 K
This parameter defines the temperature value by which the base setpoint in "Energy-saving mode" is decreased in heating mode and increased in cooling mode.	

Parameter	Settings
Setpoint Freeze-Protection, Heating	**5 °C** … 10 °C
If the controller works in heating mode, this parameter is used to define the temperature value in Protection mode.	

Parameter	Settings
Setpoint Heat-Protection, Cooling	**32 °C** … 40 °C
If the controller works in cooling mode, this parameter is used to define the temperature value in Protection mode.	

3.4.6 Temperature Actual Value

Inside Temperature

Parameter	Settings
Source for Internal Temperature Measurement	**Internal Sensor** External Sensor
Use this parameter to select the source for internal temperature measurement. The internal sensor is already integrated in the Piazza Sense. The external sensor must be ordered separately and connected to the back of the button.	
Parameter	Settings
Offset for internal Temperature Sensor (Value/10, i.e. 12 => 1.2 K)	**0** [-50…50]
Material fluctuations, location and many other factors cause the measured temperature value to deviate from the actual value. This parameter is used to adjust the internal temperature sensor. As an offset value, the temperature deviation is given in °C and divided by 10.	
Parameter	Settings
External KNX Temperature Sensor available	**No**/Yes
The measurement of the actual temperature can be improved with the help of a second external temperature sensor. If the parameter is set to "Yes", the actual value can be determined as a weighted average value from the external and internal temperature measurement	
Parameter	Settings
Offset for external Temperature Sensor (Value/10, i.e. 12 => 1.2 K)	**0** [-50…50]
Material fluctuations, location and many other factors cause the measured temperature value to deviate from the actual value. This parameter is used to adjust the external temperature sensor. As an offset value, the temperature deviation is given in °C and divided by 10.	
Parameter	Settings
Cycle Time for Sensor Request external Temperature	Inactive … **5 Minutes** … 2 Hours
Use this parameter to set whether and how often the external temperature sensor should be queried via the bus.	
Parameter	Settings
Ratio between Internal and External Temperature Value	Internal only … **50 % Internal – 50 % External** ... External only
The ratio is used to determine the weighting for the average value between the internal and external temperature values.	

Parameter	Settings
Cycle Time for Cyclical Sending actual Temperature	Inactive … **10 Minutes** ... 2 Hours
The actual temperature is sent cyclically in configured intervals.	

Parameter	Settings
Send actual Temperature when Change by	Inactive … **+/- 0,3 K** ... +/- 3 K
The selected value determines the temperature change at which the actual temperature is sent to the KNX bus.	

Outside Temperature

Parameter	Settings
Outside Temperature Sensor existing	**No**/Yes
The measurement of the actual temperature can be improved with the help of a second external temperature sensor. If the parameter is set to "Yes", the actual value can be determined as a weighted average value from the external and internal temperature measurement.	

Parameter	Settings
Offset for outside Temperature Sensor (Value/10, i.e. 12 => 1.2 K)	**0** [-50…50]
Material fluctuations, location and other influencing variables cause the measured temperature value to deviate from the actual temperature value. This parameter is used to adjust the outdoor temperature sensor. As a compensation value, the temperature deviation is given in °C and divided by 10.	

Parameter	Settings
Cycle Time for Sensor Request outside Temperature	Inactive … **5 Minutes** … 2 Hours
With this parameter you can set whether and how often the outdoor temperature sensor should be queried via the bus.	

Parameter	Settings
Setpoint at Cooling is depending from outside Temperature	**No**/Yes
This parameter determines whether the setpoint value in cooling mode should be limited to being a function of the outside temperature. This prevents the difference to the outside temperature from becoming too large.	

Parameter	Settings
Difference to outside Temperature	5 K .. **8 K** … 15 K
This parameter determines the maximum difference between the set temperature and the outside temperature. If the difference is greater than the set value, the set temperature is adjusted accordingly in cooling mode.	

3.4.7 Fan-coil settings

Parameter	Settings
Number of Fan-Coil Stages	1 Stage (0-100%) 2 Stages (0/50/100%) **3 Stages (0/33/66/100%)**
This parameter sets the number of fan fan-coil stages. The number results in the symmetrical switch-on points of the individual stages, which are locked against each other by the software.	
Parameter	Settings
Fan-Coil Stage 1 starts from 0..255=>0..100%, 0,4% = 1	**1** [0..255]
Sets the value at which the respective stage is switched on.	
Parameter	Settings
Fan-Coil Stage 1 Output 0..255=>0..100%, 33% = 85	**85** [0..255]
Sets the value, which is written to the object for the respective stage and sent via the bus.	
Parameter	Settings
Function of Automatic Object	**Normal/** Inverted
Sets the function of the automatic object. If the setting “inverted” is selected, the automatic operation of the fan is activated by writing a zero to the corresponding object.	
Parameter	Settings
Fan-Coil Automatic Mode after Busreset	**Yes/**No
This parameter determines whether the fan should start in automatic mode after the bus reset.	
Parameter	Settings
Fan-Coil Stage on Fan Startup (for 3 Seconds)	**Stage 1** Stage 2 Stage 3
This parameter determines the stage at which the first fan operation is started for 3 seconds.	

3.5 Display functions

The parameter group Display Functions contains the parameter pages for the configuration of the display if it is availablet. Up to 3 different pages can be displayed. Each page can be activated individually and can be configured independently of each other. Pages 1 and 2 are mainly intended for the display of the temperature controller, as well as the date and time. Display page 1 can display up to 5 and pages 2 and 3 up to 6 status types. Page 3 can be configured for the status of many different DPTs. Some parameters are hidden or displayed depending on certain settings. Values marked in bold are default values.

3.5.1 General

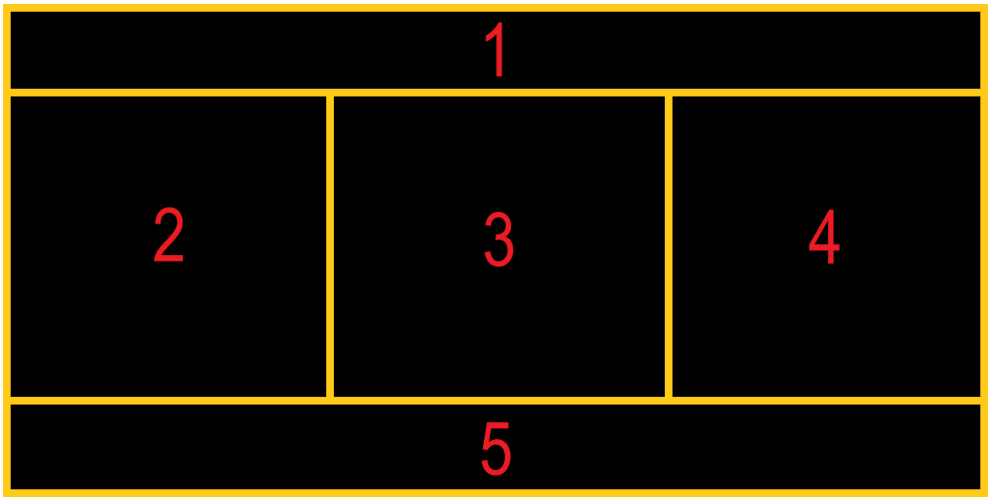
Parameter	Settings
Operating Mode of Display	**Normal Operation** ECO Mode
This parameter can be used to set the operating mode of the display. In ECO mode, the display is dimmed to the preset brightness after a configured time.	

Parameter	Settings
Display Brightness by ECO Mode	100% 90% 80% 70% 60% 50% 40% **30%** 20% 10% Display Off
This parameter can be used to adjust the brightness of the display in ECO mode. The display is dimmed to this brightness after a configured time.	
Parameter	Settings
Display Brightness by Normal Operation	100% 90% 80% **70%** 60% 50% 40% 30% 20% 10% Display Off
This parameter can be used to set the brightness of the display in normal operation. This brightness is also set when the display wakes up by pressing the buttons in ECO mode.	
Parameter	Settings
Display Brightness by Night Mode	100% 90% 80% 70% 60% 50% 40% 30% 20% 10% **Display Off**
This parameter sets the brightness of the display at night. Night operation can be activated via a separate object.	
Parameter	Settings
Waking Up the Display	No waking up for 3 s for 5 s **for 10 s** for 20 s for 30 s for 1 min
Parameter	Settings
This parameter sets whether and for how long the display should wake up when a button is pressed.	
Parameter	Settings
Screen 1 activate	No **Yes**
This parameter can be used to activate the first screen page.	

Parameter	Settings
Screen 2 activate	No **Yes**
This parameter can be used to activate the second screen page.	
Parameter	Settings
Screen 3 activate	No **Yes**
This parameter can be used to activate the third screen page	
Parameter	Settings
Main Screen Number	**Screen 1** Screen 2 Screen 3
This parameter selects the page that should serve as the main screen page. This is always displayed after the bus reset.	
Parameter	Settings
Screen Switching Variant	**Manually** Automatic
This parameter can be used to set the type of switching between screen pages. In manual setting, you can switch between pages via a button pair or an object. In automatic setting, the activated pages alternate after a preset time has elapsed.	
Parameter	Settings
Automatically Jump back tot he Main Screen	No **Yes**
This parameter sets whether the display should jump back to the main screen after the default time has elapsed.	
Parameter	Settings
Delay for Jump Back	**3 Seconds** … 30 Seconds
This parameter sets the time after which the display should jump back to the main screen.	
Parameter	Settings
Cycle Time for Automatic Screen Switching	**3 Seconds** … 30 Seconds
This parameter sets the cycle time for automatic switching between screens.	

3.5.2 Screen 1

On this parameter page, screen page 1 can be configured. Up to 5 status types can be displayed on this page (see screenshot below). Some parameters are hidden or displayed depending on certain settings. Values marked in bold are default values.



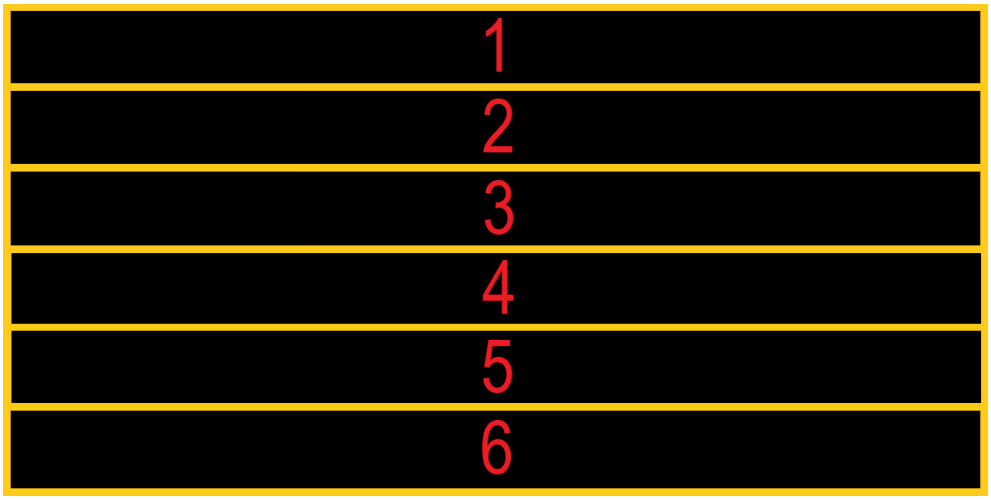
Parameter	Settings
Type of Status 1	No Status Time Date **Time and Date** Text + Value(0-100%) Text + Temperature
This parameter configures the type of status 1 of the first screen page. Date and time objects should be updated at least every 60 minutes so that the time can be displayed correctly.	
Parameter	Settings
Type of Status 2	No Status Inside Temperature Icon + Value Outside Temperature + Value Setpoint Temperature Icon + Value Fan Coil Stage Icon + Stage Switch On/Off Icon Room Operating Mode Icon Presence Icon Cooling Valve Icon + Value Heating Valve Icon + Value Humidity Icon + Value **Air Quality Icon + Value**
This parameter configures the type of status 2 on the first screen page. The status is displayed via an icon with text. Depending on the selected status type, different symbols are displayed partly with the text or value and partly without it.	

Parameter	Settings
Type of Status 3	No Status **Inside Temperature Icon + Value** Outside Temperature + Value Setpoint Temperature Icon + Value Fan Coil Stage Icon + Stage Switch On/Off Icon Room Operating Mode Icon Presence Icon Cooling Valve Icon + Value Heating Valve Icon + Value Humidity Icon + Value Air Quality Icon + Value
This parameter configures the type of status 3 on the first screen page. The status is displayed via an icon with text. Depending on the selected status type, different symbols are displayed partly with the text or value and partly without it.	
Parameter	Settings
Type of Status 4	No Status Inside Temperature Icon + Value Outside Temperature + Value Setpoint Temperature Icon + Value Fan Coil Stage Icon + Stage Switch On/Off Icon Room Operating Mode Icon Presence Icon Cooling Valve Icon + Value Heating Valve Icon + Value **Humidity Icon + Value** Air Quality Icon + Value
This parameter configures the type of status 4 on the first screen page. The status is displayed via an icon with text. Depending on the selected status type, different symbols are displayed partly with the text or value and partly without it.	
Parameter	Settings
Type of Status 5	No Status **Setpoint Deviation** Text + Value 1 Byte (0..100%) Text + Temperature
This parameter configures the type of status 5 on the first screen page	
Parameter	Settings
Usage for internal Status	**Yes**/No
This parameter determines whether the respective status should be used for internal values or status types.	
Parameter	Settings
Stepsize Setpoint Deviation	0,5 K … **1 K** … 2,5 K
This parameter is used to set the step size of the setpoint deviation.	

Parameter	Settings
Deviation of Setpoint	**+/- 3 Steps** +/- 4 Steps +/- 5 Steps +/- 6 Steps
This parameter is used to set the number of available steps for setpoint deviation.	

3.5.3 Screen 2

On this parameter page, screen page 2 can be configured. Up to 6 status types can be displayed (see screenshot below). All status displays are freely configurable. Each line can display a text and corresponding value. It is important to note that the maximum number of characters that can be represented in a line is 15. This means that if you expect a three-digit value, the text may contain a maximum of 10 letters, because you still need a space and a character for e.g. "%". This should always be taken into account when configuring the screen. Some parameters are hidden or displayed depending on certain settings. Values marked in bold are default values.



Parameter	Settings
Type of Status 1	No Status Time Date Time and Date **Text + Value 1 Byte** Text + Temperature
This parameter configures the type of status 1 of the second screen page. Date and time objects should be updated at least every 60 minutes so that the time can be displayed correctly.	
Parameter	Settings
Type of Status 2	No Status **Text + Value 1 Byte** Text + Temperature
This parameter can be used to configure the type of status 2 on the second screen page.	
Parameter	Settings
Type of Status 3	No Status **Text + Value 1 Byte** Text + Temperature
This parameter can be used to configure the type of status 3 on the second screen page.	

Parameter	Settings
Type of Status 4	No Status **Text + Value 1 Byte** Text + Temperature
This parameter can be used to configure the type of status 4 on the second screen page.	

Parameter	Settings
Type of Status 5	No Status **Text + Value 1 Byte** Text + Temperature
This parameter can be used to configure the type of status 5 on the second screen page.	

Parameter	Settings
Type of Status 6	No Status **Text + Value 1 Byte** Text + Temperature
This parameter can be used to configure the type of status 6 on the second screen page.	

Parameter	Settings
Typ des Wertes	**Value (0..100%)** Value (0..360°) Value (0..255%) Value (0..255)
This parameter configures the DPT of the value of the respective status on the second screen page.	

Parameter	Settings
Text of Status X	**Heating** [String: 15 Symbols]
Specifies the text for each status. The text is displayed left-aligned in the corresponding line.	

3.5.4 Screen 3

Parameter	Settings
Type of Status 1	No Status **Text** Text + Value
This parameter can be used to configure the type of status 1 on the third screen page.	

Parameter	Settings
Type of Status 2	No Status **Text** Text + Value
This parameter can be used to configure the type of status 2 on the third screen page.	

Parameter	Settings
Type of Status 3	No Status **Text** Text + Value
This parameter can be used to configure the type of status 3 on the third screen page.	

Parameter	Settings
Type of Status 4	No Status **Text** Text + Value
This parameter can be used to configure the type of status 4 on the third screen page.	

Parameter	Settings
Type of Status 5	No Status **Text** Text + Value
This parameter can be used to configure the type of status 5 on the third screen page.	

Parameter	Settings
Type of Status 6	No Status **Text** Text + Value
This parameter can be used to configure the type of status 6 on the third screen page.	

Parameter	Settings
Sourse for Text	**Show Text from ETS Parameter below** Show Text from Status Object
This parameter can be used to select the source for the text output.	

Parameter	Settings
Text of Status X	**Status**[String: 15 Symbols]
Specifies the text for each status. The text is displayed left-aligned in the corresponding line.	

Parameter	Settings
Type of Value	**1 Byte unsigned Value** 1 Byte signed Value 2 Byte unsigned Value 2 Byte signed Value 2 Byte float Value 4 Byte unsigned Value 4 Byte signed Value
This parameter configures the DPT of the value of the respective status on the third screen page.	

Parameter	Settings
Show the Unit	**No/**Yes
Use this parameter to determine whether a unit should be displayed in addition to the value of the status. The unit is displayed to the right of the value.	

Parameter	Settings
Unit Text	**%**[String: 4 Symbols]
Specifies the text of the unit for the respective status. The unit is displayed to the right of the value.	

3.6 Alarming

The alarm parameter group contains the parameter pages for alarm configuration.

3.6.1 General

All general alarm settings are made on this parameter page. Values marked in bold are default values.

Parameter	Settings
Alarm Function available	**Yes**/No
This parameter activates the display of alarms on the control panel.	

Parameter	Settings
Show Alarms on Display	**Yes**/No
This parameter can be used to show alarms on the display.	

Parameter	Settings
General Text at Alarm	**---Attention!---** [String: 14 Symbols]
Enter the text which is to be shown on the display in the event of any alarm.	

Parameter	Settings
Buzzer activate at Alarm	**Yes**/No
This parameter determines whether an acoustic signal is activated in the event of an alarm. (Beeps)	

Parameter	Settings
Buzzer deactivate after Seconds	**10 s** [0… 180s]
This parameter sets the time after which the acoustic signal is deactivated in the event of an alarm.	

Parameter	Settings
Reset Alarm via same Object	**Yes**/No
This parameter determines whether the alarm display is deleted by an object.	

3.6.2 General Alarms

On this parameter page, three general alarms and a text alarm can be configured.

Parameter	Settings
General Alarm 1 existing	**Yes**/No
This parameter can be used to activate the display for alarm 1.	

Parameter	Settings
Text Message on Display at Alarm 1	**Text Alarm 1** [String: 14 Symbols]
Enter the text you want to be shown on the display in addition to the fixed text when activating alarm 1.	

Parameter	Settings
Object Funktion Alarm 1	**Normal** Inverted
This parameter sets whether an alarm should be triggered at value 1 (Normal) or value 0 (Inverted).	

Parameter	Settings
General Alarm 2 existing	**Yes**/No
This parameter can be used to activate the display for alarm 2.	

Parameter	Settings
Text Message on Display at Alarm 2	**Text Alarm 2** [String: 14 Symbols]
Enter the text you want to be shown on the display in addition to the fixed text when activating alarm 2.	

Parameter	Settings
Object Funktion Alarm 2	**Normal** Inverted
This parameter sets whether an alarm should be triggered at value 1 (Normal) or value 0 (Inverted).	

Parameter	Settings
General Alarm 3 existing	**Yes**/No
This parameter can be used to activate the display for alarm 3.	

Parameter	Settings
Text Message on Display at Alarm 3	**Text Alarm 3** [String: 14 Symbols]
Enter the text you want to be shown on the display in addition to the fixed text when activating alarm 3.	

Parameter	Settings
Object Funktion Alarm 3	**Normal** Inverted
This parameter sets whether an alarm should be triggered at value 1 (Normal) or value 0 (Inverted).	

Parameter	Settings
Text Alarm existing	**Yes**/No
This parameter can be used to activate the text alarm.	

3.6.3 Temperature Alarm

Temperature alarms can be configured on this parameter page

Parameter	Settings
Freeze Alarm existing	**Yes**/No
This parameter activates the frost alarm.	

Parameter	Settings
Threshold Freeze Alarm	0 °C **….** **5 °C** **….** 10 °C
This parameter sets the threshold value for the frost alarm. As soon as the temperature reaches the threshold value or as long as it remains below, an alarm is triggered or remains active.	

Parameter	Settings
Cycle Time for Freeze Alarm sending	Inactive **…** **10 Minutes** **…** 2 Hours
This parameter sets the cycle time for sending frost alarms. As long as the temperature remains below the limit, the alarm is sent cyclically.	

Parameter	Settings
Text Message on Display at Freeze Alarm	**Freeze Alarm** [String: 14 Symbol]
Enter the text you want to be shown on the display in addition to the fixed text when activating the frost alarm.	
Parameter	Settings
Heat Alarm existing	**Yes**/No
This parameter activates the heat alarm.	
Parameter	Settings
Threshold Heat Alarm	32 °C **….** **40 °C**
This parameter sets the threshold value for the heat alarm. As soon as the temperature reaches the threshold value or as long as it remains above, an alarm is triggered or remains active.	
Parameter	Settings
Cycle Time for Heat Alarm sending	Inactive **…** **10 Minutes** **…** 2 Hours
This parameter sets the cycle time for sending heat alarms. As long as the temperature remains above the limit, the alarm is sent cyclically.	
Parameter	Settings
Text Message on Display at Heat Alarm	**Heat Alarm** [String: 14 Symbols]
Enter the text you want to be shown on the display in addition to the fixed text when activating the heat alarm.	
Parameter	Settings
Dew-Point Alarm existing	**Yes**/No
This parameter can be used to activate the dew point alarm.	
Parameter	Settings
Text Message on Display at Dew-Point Alarm	**Dew-Point** [String: 14 Symbol]
Enter the text you want to be shown on the display in addition to the fixed text when activating the dew point alarm.	

3.6.4 CO2 Alarm

The CO2 alarm can be configured on this parameter page.

Parameter	Settings
CO2 Alarming existing	**Yes**/No
The CO2 alarm can be activated via this parameter.	
Parameter	Settings
Threshold CO2 Alarm (in ppm)	**1400** [400..40000]
This parameter sets the threshold value for the CO2 alarm. As soon as CO2 concentration reaches the threshold value or as long as it remains above, an alarm is triggered or remains active.	

Parameter	Settings
Cycle Time for CO2 Alarm sending	Inactive … **10 Minutes** … 2 Hours
This parameter sets the cycle time for sending CO2 alarms. As long as CO2 concentration remains above the limit, the alarm is sent cyclically.	
Parameter	Settings
Text Message on Display at CO2 Alarm	**CO2 Alarm** [String: 14 Symbols]
Enter the text you want to be shown on the display in addition to the general text when activating the CO2 alarm.	

3.6.5 Humidity Alarm

On this parameter page the humidity alarm can be configured.

Parameter	Settings
Humidity Alarm existing	**Yes**/No
This parameter can be used to activate the humidity alarm.	
Parameter	Settings
Threshold (in %)	**90** [0..100]
This parameter sets the threshold value for the humidity alarm. As soon as relative humidity reaches the threshold value or as long as it remains above, an alarm is triggered or remains active.	
Parameter	Settings
Cycle Time for Humidity Alarm sending	Inactive … **10 Minutes** … 2 Hours
This parameter sets the cycle time for sending humidity alarms. As long as humidity levels remain above the limit, the alarm is sent cyclically.	
Parameter	Settings
Text Message on Display at Humidity Alarm	**Humidity Alarm** [Text: 14 Zeichen]
Enter the text you want to be shown on the display in addition to the general text when activating the humidity alarm.	

