

KNX Thermostat

Room Thermostat STD
Room Thermostat MD

Reference Manual

V 1.00

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1 Functional characteristics

Room temperature controller sense the current room temperature and controls the heating and/or cooling. It is also controls Fan coil units.

Device has 2 different weekly switching programs which can be programed separately by user.

The display is backlighted for easier reading.

The Room temperature controller is fitted with push-switches and an LCD to show the current operating modes and values.

A separate bus coupling unit is not required. The room temperature controller does not require an auxiliary power supply. The Engineering Software Tool (from ETS3-f) is used to assign the physical address and set the parameters.

2 Technical data

General	
Power supply	Bus voltage.
Permitted operating temperature	-5 °C... + 45°C
Current draw from bus voltage	Max 10 mA
Bus connection	Bus terminal
Type of protection	IP 20 to EN 60529

3 Application programs

3.1 Selection in the product database

Manufacturer	Panasonic	
Product group	Heating, ventilation, air condition	
Product type	Thermostat	
Program names	Room Thermostat MD, Room Thermostat STD	
Program version	1.0	1.0

Number of communication objects:	25
Number of group addresses:	128
Number of assignments:	128

3.2 Communication objects

Table 1: Object Overview

Obj. No	Object name	Function	Size	Datapoint type	Flags				
					C	R	W	T	U
0	Actual temperature value	Transmit actual value	2 Bytes	9.001 - DPT_Value_Temp	✓	✓		✓	
1	Current operation mode	Indicate operation mode	1 Byte	20.102 - DPT_HVACMode	✓	✓	✓	✓	
2	Presence Input	Input for presence signal	1 Bit	1.001 - DPT_Switch	✓	✓	✓		
3	Window State	Input for window contact	1 Bit	1.001 - DPT_Switch	✓	✓	✓		
4	Heating base setpoint	Define set point value	2 Bytes	9.001 - DPT_Value_Temp	✓	✓	✓		
5	Cooling base setpoint	Define set point value	2 Bytes	9.001 - DPT_Value_Temp	✓	✓	✓		
6	Current Setpoint	Indicate/adjust set point	2 Bytes	9.001 - DPT_Value_Temp	✓	✓	✓	✓	
7	Heating Switching Control Value	Transmit actuating value	1 Bit	1.001 - DPT_Switch	✓	✓		✓	
	Heating Continuous Control Value	Transmit actuating value	1 Byte	5.001 - DPT_Scaling	✓	✓		✓	
8	Cooling Switching Control Value	Transmit actuating value	1 Bit	1.001 - DPT_Switch	✓	✓		✓	
	Cooling Continuous Control Value	Transmit actuating value	1 Byte	5.001 - DPT_Scaling	✓	✓		✓	
9	Switchover between heating and cooling	heating=0, cooling=1	1 Bit	1.001 - DPT_Switch	✓	✓	✓	✓	
	Report heating or cooling mode	heating=0, cooling=1	1 Bit	1.001 - DPT_Switch	✓	✓		✓	
10	Reset manual operations	Reset=1	1 Bit	1.001 - DPT_Switch	✓	✓	✓		
11	Fan mode (manual/auto)	1=manual, 0=auto	1 Bit	1.001 - DPT_Switch	✓	✓	✓	✓	
12	Fan level	send/receive fan level 0-100 %	1 Byte	5.001 - DPT_Scaling	✓	✓	✓	✓	✓
	Fan level	send/receive fan level 0-3	1 Byte	5.010 - DPT_Value_1_Ucount	✓	✓	✓	✓	✓
13	LCD backlight	on/off backlight	1 Bit	1.001 - DPT_Switch	✓	✓	✓		
14	Time	Receive time	2 Bytes	10.001 - DPT_TimeOfDay	✓	✓	✓		
15	Time query	Request for time	1 Bit	1.002 - DPT_Bool	✓	✓		✓	
16	Date	Receive date	3 Bytes	11.1 - DPT_Date	✓	✓	✓		
17	Date query	Request for date	1 Bit	1.002 - DPT_Bool	✓	✓		✓	
18	Switching program lock	Lock=1	1 Bit	1.001 - DPT_Switch	✓	✓	✓		
19	Heating PWM Control Value	Transmit actuating value	1 Bit	1.001 - DPT_Switch	✓	✓		✓	
20	Cooling PWM Control Value	Transmit actuating value	1 Bit	1.001 - DPT_Switch	✓	✓		✓	
21	Fan level	send/receive fan level 1	1 Bit	1.001 - DPT_Switch	✓	✓	✓	✓	✓
22	Fan level	send/receive fan level 2	1 Bit	1.001 - DPT_Switch	✓	✓	✓	✓	✓
23	Fan level	send/receive fan level 3	1 Bit	1.001 - DPT_Switch	✓	✓	✓	✓	✓
24	Fan unit	Send on/off	1 Bit	1.001 - DPT_Switch	✓			✓	

3.2.1 Explanation of the flags

Flag	Flag name	Description
C	Communication	Object has a connection with bus.
R	Read	Object can be read from bus.
W	Write	Value can be written to object from bus.
T	Transmit	Object can send data to bus.
U	Update	Object updated with any response telegram.

3.2.2 Description of objects

Obj. No	Object name	Function	Description										
0	<i>Actual temperature value</i>	<i>Transmit actual value</i>	This object sends the temperature currently being measured by the sensor.										
1	<i>Current operation mode</i>	<i>Indicate operation mode</i>	<p>Transmits the current operation mode as a 1 byte value (see below: Coding of operation modes).</p> <p>Coding of HVAC operation modes:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Operating mode</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Comfort</td> </tr> <tr> <td>2</td> <td>Standby</td> </tr> <tr> <td>3</td> <td>Night</td> </tr> <tr> <td>4</td> <td>Frost protection/heat protection</td> </tr> </tbody> </table>	Value	Operating mode	1	Comfort	2	Standby	3	Night	4	Frost protection/heat protection
Value	Operating mode												
1	Comfort												
2	Standby												
3	Night												
4	Frost protection/heat protection												
2	<i>Presence Input</i>	<i>Input for presence signal</i>	<p>The status of a presence indicator (e.g. sensor, movement detector) can be received via this object.</p> <p>1 on this object activates the comfort operation mode.</p>										
3	<i>Window State</i>	<i>Input for window contact</i>	<p>The status of a window contact can be received via this object.</p> <p>1 on this object activates the frost / heat protection operation mode.</p>										

Obj.	Object name	Function	Description
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No			
4	<i>Heating base setpoint</i>	<i>Define set point value</i>	The Heating base setpoint value is first specified via the application (ETS) at start-up and stored in the "Heating base setpoint value" object. This object can be changed any time via bus (limited by minimum or maximum valid setpoint value). If this object value is changed via bus that value is written as Heating comfort setpoint value. Also standby and night setpoints are updated as parameterized in ETS.
5	<i>Cooling base setpoint</i>	<i>Define set point value</i>	The Cooling base setpoint value is first specified via the application (ETS) at start-up and stored in the "Cooling base setpoint value" object. This object can be changed any time via bus (limited by minimum or maximum valid setpoint value). If this object value is changed via bus that value is written as Cooling comfort setpoint value. Also standby and night setpoints are updated as parameterized in ETS.
6	<i>Current Setpoint</i>	<i>Indicate/adjust set point</i>	This object sends the current setpoint temperature to bus. Current setpoint value can be changed via this object from bus.
7	<i>Heating Switching Control Value</i>	<i>Transmit actuating value</i>	Sends the current heating actuating value (0-1)
	<i>Heating Continuous Control Value</i>	<i>Transmit actuating value</i>	Sends the current heating actuating value (0...100%)
8	<i>Cooling Switching Control Value</i>	<i>Transmit actuating value</i>	Sends the current cooling actuating value (0-1)
	<i>Cooling Continuous Control Value</i>	<i>Transmit actuating value</i>	Sends the current cooling actuating value (0...100%)
9	<i>Switchover between heating and cooling</i>	<i>heating=1, cooling=0</i>	The function of the object depends on the "Control Function" parameter on the "Controller General" parameter page. <u>Automatic:</u> Reports whether the room thermostat is currently operating in heating or cooling mode.
	<i>Report heating or cooling mode</i>		<u>Via object:</u> Receives the switching command for switching between heating and cooling mode.
10	<i>Reset manual operations</i>	<i>Reset=1</i>	
11	<i>Fan mode (manual/auto)</i>	<i>0>manual, 1=auto</i>	Sends fan mode to bus.
12	<i>Fan level</i>	<i>send/receive fan level 0-100 %</i>	If a manual fan mode is selected on the device, this object sends a percentage value that corresponds to the configured threshold value.
	<i>Fan level</i>	<i>send/receive fan level 0-3</i>	This object sends counter value from 0 to 3 as fan level.

Obj.	Object name	Function	Description
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No			
13	<i>LCD backlight</i>	<i>on/off backlight</i>	Enables switching on and off of LCD backlighting via the bus. This means, for example, that all displays can be turned off simultaneously.
14	<i>Time</i>	<i>Receive time</i>	Receives time (with weekday) from the bus in KNX DPT 10.001 format in order to set the internal clock.
15	<i>Time query</i>	<i>Request for time</i>	Sends automatically a time query to the time transmitter after restoration of the bus, reset and/or download. If the time cannot be received, then sends a new time query every 5 minutes.
16	<i>Date</i>	<i>Receive date</i>	Receives date from the bus in KNX DPT_Date (11.001) format in order to set the internal date.
17	<i>Date query</i>	<i>Request for date</i>	Sends automatically a date query to the time transmitter after restoration of the bus, reset and/or download. If the date cannot be received, then sends a new date query every 5 minutes.
18	<i>Switching program lock</i>	<i>Lock=1</i>	Makes the time program inoperative.
19	<i>Heating PWM Control Value</i>	<i>Transmit actuating value</i>	The actuating value in object 7 is emitted as a PWM signal (ON/OFF).
20	<i>Cooling PWM Control Value</i>	<i>Transmit actuating value</i>	The actuating value in object 8 is emitted as a PWM signal (ON/OFF).
21	<i>Fan level</i>	<i>send/receive fan level 1</i>	Activates related fan level
22	<i>Fan level</i>	<i>send/receive fan level 2</i>	Activates related fan level
23	<i>Fan level</i>	<i>send/receive fan level 3</i>	Activates related fan level
24	<i>Fan unit</i>	<i>Send on/off</i>	If fan level Off is selected this object sends OFF telegram. If fan level auto, 1, 2 or 3 is selected this object sends ON telegram.

3.3 Parameters

3.3.1 The General parameter page

Designation	Values	Description
<i>Settings menu on device</i>	<p><i>Disable</i></p> <p><i>Enable</i></p>	<p>Selection of setting menu on device: press and hold menu key for 3 seconds.</p> <p>Operation not possible</p> <p>Operation possible</p>
<i>Operation mode after reset</i>	<p><i>Comfort</i></p> <p><i>Standby</i></p> <p><i>Night</i></p> <p><i>Frost/Heat Protection</i></p>	<p>Operation mode after start-up or reprogramming.</p>
<i>Fan Control</i>	<p><i>Disable</i></p> <p><i>Enable</i></p>	<p>Fan control option is inactive</p> <p>Fan control is active. "Fan Control" page and "Fan Objects" appears.</p>
<i>Transmit operation mode and fan step</i>	<p><i>not cyclically, only at change</i></p> <p><i>every 2 min.</i></p> <p><i>every 3 min.</i></p> <p><i>every 5 min.</i></p> <p><i>every 10 min.</i></p> <p><i>every 15 min.</i></p> <p><i>every 20 min.</i></p> <p><i>every 30 min.</i></p> <p><i>every 45 min.</i></p> <p><i>every 60 min.</i></p>	<p>How often should the current operation mode and current fan level be sent?</p> <p>Fan level is sent only if "Fan Mode" is not in auto mode.</p>

Continued..

Designation	Values	Description
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Designation	Values	Description
<i>Switching program after reset</i>	<p>No program</p> <p><i>User defined program 1</i></p> <p><i>User defined program 2</i></p> <p><i>Default program 1</i></p> <p><i>Default program 2</i></p> <p><i>Unchange</i></p>	<p>Device has 2 switching program PRG1 and PRG2.</p> <p>After start-up or reprogramming, the device: runs without any switching program</p> <p>Runs with PRG1.(If adjusted keeps user defined switching program settings)</p> <p>Runs with PRG2.(If adjusted keeps user defined switching program settings)</p> <p>Runs with PRG1. (Reset PRG1 to default settings)</p> <p>Runs with PRG2.(Reset PRG2 to default settings)</p> <p>Don't change current switching program. <i>*Before select this setting Date-Time should be set from bus or manually.</i></p>
<i>Language after download</i>	<p><i>Deutsch</i></p> <p><i>English</i></p> <p><i>Español</i></p> <p><i>Français</i></p> <p><i>Polski</i></p> <p><i>Русский</i></p> <p>Türkçe</p>	Select user interface language.
<i>Select date-time object</i>	<p>Time object only</p> <p><i>Time + Date object</i></p>	<p>Only time of day object is active. Time and day of week could be adjusted from bus.</p> <p>Time of day and date objects are active. Date and time can be changed from bus.</p>

3.3.2 The Controller General parameters page

Designation	Values	Description
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Designation	Values	Description
<i>Control function</i>	<p>Heating</p> <p><i>Cooling</i></p> <p><i>Heating and Cooling</i></p>	<p>Only heating control operation</p> <p>Only cooling control operation</p> <p>Heating and cooling operations will be done together.</p>
<i>Switchover between heating and cooling</i>	<p>Automatically</p> <p><i>Via Objects</i></p>	<p>Shown if <i>Heating and Cooling</i> in <i>Control function</i> is selected.</p> <p>Room thermostat checks the configured setpoints for heating and cooling then switch between heating and cooling automatically.</p> <p>Switch via an associated 1-bit communication object</p>
<i>Control function after reset</i>	<p>Heating</p> <p><i>Cooling</i></p>	<p>This parameter specifies the control function activated after resetting or reprogramming the device.</p>
<i>Minimum distance between heating and cooling</i>	<p>1K</p> <p>2K</p> <p>3K</p> <p>4K</p> <p>5K</p> <p>6K</p>	<p>Specifies the buffer zone between setpoint values in heating and cooling modes.</p> <p>The minimum distance is expanded through hysteresis in switching (2 step) control.</p>

3.3.3 The Temperature Measurement parameter page

Designation	Values	Description
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Designation	Values	Description
<i>Offset for temperature sensor 0.1K Steps (-50..50)</i>	<i>Value from -50 to 50</i> <i>Default value = 0</i>	Positive or negative adjustment of measured temperature in 1/10 increments. Examples: a) -This thermostat sends 20.3°C. - The room temperature of 21.0°C is measured using a calibrated thermometer. 21.0 – 20.3 = 0.7K must be added to thermostat for correction. 0.7 / 0.1 = 7 must be entered as offset. b) -This thermostat sends 21.5°C. -The room temperature of 20.1°C is measured using a calibrated thermometer. 20.1 – 21.5 = -1.4K must be added to thermostat for correction. -1.4/ 0.1 = -14 must be entered as offset.
<i>Transmit actual temperature at change</i>	<i>Inactive</i> <i>0.2K</i> <i>0.3K</i> <i>0.5K</i> <i>0.8K</i> <i>1K</i> <i>1.5K</i> <i>2.0K</i>	Don't send actual temperature value on value change event. Send actual value on specified change value.
<i>Transmit actual temperature cyclically</i>	<i>Not cyclically, only at change</i> <i>every 2 min.</i> <i>every 3 min.</i> <i>every 5 min.</i> <i>every 10 min.</i> <i>every 15 min.</i> <i>every 20 min.</i> <i>every 30 min.</i> <i>every 45 min.</i> <i>every 60 min.</i>	Sending period of actual temperature value to bus.

3.3.4 The Setpoints parameter page

Designation	Values	Description
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Designation	Values	Description
<i>Heating setpoint base</i>	<i>15°C, 16°C31°C, 32°C</i>	Base setpoint which is assigned to heating comfort setpoint value after ETS download.
<i>Heating reduction standby</i>	<i>1K, 2K9K,10K</i>	Reduction value to obtain standby setpoint value from base setpoint. Ex: Heating base setpoint is 21°C,heating reduction value is 2K than standby setpoint value is; 21-2=19°C
<i>Heating reduction night</i>	<i>1K, 2K9K,10K</i>	Reduction value to obtain night setpoint value from base setpoint.
<i>Heating setpoint frost protection</i>	<i>1°C, 2°C14°C,15°C</i>	Setpoint value to start frost protection
<i>Cooling setpoint base</i>	<i>15°C, 16°C31°C, 32°C</i>	Base setpoint which is assigned to cooling comfort setpoint value after ETS download.
<i>Cooling increase standby</i>	<i>1K, 2K9K,10K</i>	Increase value to obtain standby setpoint value from base setpoint.
<i>Cooling increase night</i>	<i>1K, 2K9K,10K</i>	Increase value to obtain night setpoint value from base setpoint.
<i>Cooling setpoint heat protection</i>	<i>30°C, 31°C39°C,40°C</i>	Setpoint value to start heat protection
<i>Maximum allowed manual setpoint offset</i>	<i>Manual offset not allowed +/- 1K +/- 2K . . +/- 6K +/- 7K</i>	Manually maximum shift the setpoint values by user.
<i>Transmit current setpoint cyclically</i>	<i>Not cyclically, only at change every 2 min. every 3 min. every 5 min. every 10 min. every 15 min. every 20 min. every 30 min. every 45 min. every 60 min.</i>	Sending period of current setpoint value to bus.

3.3.5 The Heating Control parameter page

Designation	Values	Description
<i>Heating controller type</i>	2 Step	This function allows you to specify the mode of control.
	<i>Continuous</i>	You can select "2-step control" or "Continuous control"
2 Step Parameters		
<i>Heating hysteresis</i>	0.2K	Set a hysteresis value to ensure that the valve does not constantly switch with each minor under and overshoot when using 2-step control of the actuator.
	0.4K	
	0.6K	The hysteresis value lies around the setpoint. For example, if the setpoint is 21 °C and the hysteresis is 1 K, the room thermostat only sends an "on" signal at 21.5 °C and an "off" signal at 20.5 °C. This parameter is only available if "2-step " is set as the control type.
	0.8K	
	1.0K	
	1.2K	
	1.4K	
	1.6K	
1.8K		
2.0K		
<i>Heating invert control value</i>	no	This parameter is used to adjust the direction of control action of the control value to "de-energised open" or "de-energised closed" valves.
	<i>yes</i>	
Continuous Parameters		
<i>Heating PI parameter type</i>	Via type of system	Standard applications
	<i>User defined</i>	Professional applications. Adjust PI controller parameters.
<i>Heating type of the system</i>	Warm water heating	PI control with: Integrated time = 100 minutes Bandwidth = 1.5K
	<i>Electric heating</i>	Integrated time = 50 minutes Bandwidth = 1.5K
	<i>Floor heating</i>	Integrated time =200 minutes Bandwidth = 4.0K
	<i>Split unit</i>	Integrated time = minutes Bandwidth = k

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Designation	Values	Description
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Designation	Values	Description
<i>Heating proportional band</i>	<i>0.5K, 1.0K, 1.5K, 2.0K, 2.5K, 3.0K, 3.5K, 4.0K, 4.5K, 5.0K, 5.5K, 6.0K, 6.5K, 7.0K, 7.5K, 8.0K, 8.5K, 9.0K, 9.5K, 10K</i>	Professional setting for adapting control response to the room. Small values cause large changes in control variables, larger values cause finer control variable adjustment.
<i>Heating integral reset time</i>	<i>Value from 0 to 250</i>	Professional setting: See appendix: Response of the PI controller This time can be adapted to suit particular circumstances. If the heating system is over- dimensioned and therefore too fast, shorter values should be used. Conversely, under-dimensioned heating (slow) benefits from longer integrated times.
<i>Heating PWM cyclic time(Min.)</i>	<i>Value from 1 to 60</i>	An actuation cycle consists of a switch-on and a switch-off process and forms a PWM period. Example: Actuating value= 20%, PWM time = 10 min: In an actuating cycle of 10 min, 2min switched on and 8 min switched off (i.e. 20% on/ 80% off).
<i>Transmit control value at change of</i>	<i>%1 %2 %3 %4 %5 ... %12 %13 %14 %15</i>	After how much % change* in the control variable is the new value to be sent. Small values increase control accuracy but also the bus load. *Change since last transmission
<i>Heating transmit control value cyclically</i>	<i>Not cyclically, only at change every 2 min. every 3 min. every 5 min. every 10 min. every 15 min. every 20 min. every 30 min. every 45 min. every 60 min.</i>	How often is the current heating actuating value to be sent (regardless of changes)?

3.3.6 The Cooling Control parameter page

Designation	Values	Description
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Designation	Values	Description
<i>Cooling controller type</i>	2 Step <i>Continuous</i>	See heating description.
2 Step Parameters		
<i>Cooling hysteresis</i>	0.2K <i>0.4K</i> <i>0.6K</i> <i>0.8K</i> <i>1.0K</i> <i>1.2K</i> <i>1.4K</i> <i>1.6K</i> <i>1.8K</i> 2.0K	See heating description.
<i>Cooling invert control value</i>	no <i>yes</i>	See heating description.
Continuous Parameters		
<i>Cooling PI parameter type</i>	Via type of system <i>User defined</i>	See heating description.
<i>Cooling type of the system</i>	Cool ceiling <i>Split unit</i>	PI control with: Integrated time = 225 minutes Bandwidth = 5K Integrated time = 90 minutes Bandwidth = 4K
<i>Cooling proportional band</i>	<i>0.5K, 1.0K, 1.5K, 2.0K, 2.5K,</i> <i>3.0K, 3.5K, 4.0K, 4.5K, 5.0K, 5.5K,</i> <i>6.0K, 6.5K, 7.0K, 7.5K, 8.0K, 8.5K,</i> <i>9.0K, 9.5K, 10K</i>	See heating description.
<i>Cooling integral reset time</i>	<i>Value from 0 to 250</i>	See heating description.
<i>Cooling PWM cyclic time (Min.)</i>	<i>Value from 1 to 60</i>	See heating description.
<i>Transmit control value at change of</i>	<i>%1</i> <i>%2</i> <i>%3</i> <i>%4</i> <i>%5</i> <i>...</i> <i>%12</i> <i>%13</i> <i>%14</i> <i>%15</i>	See heating description.

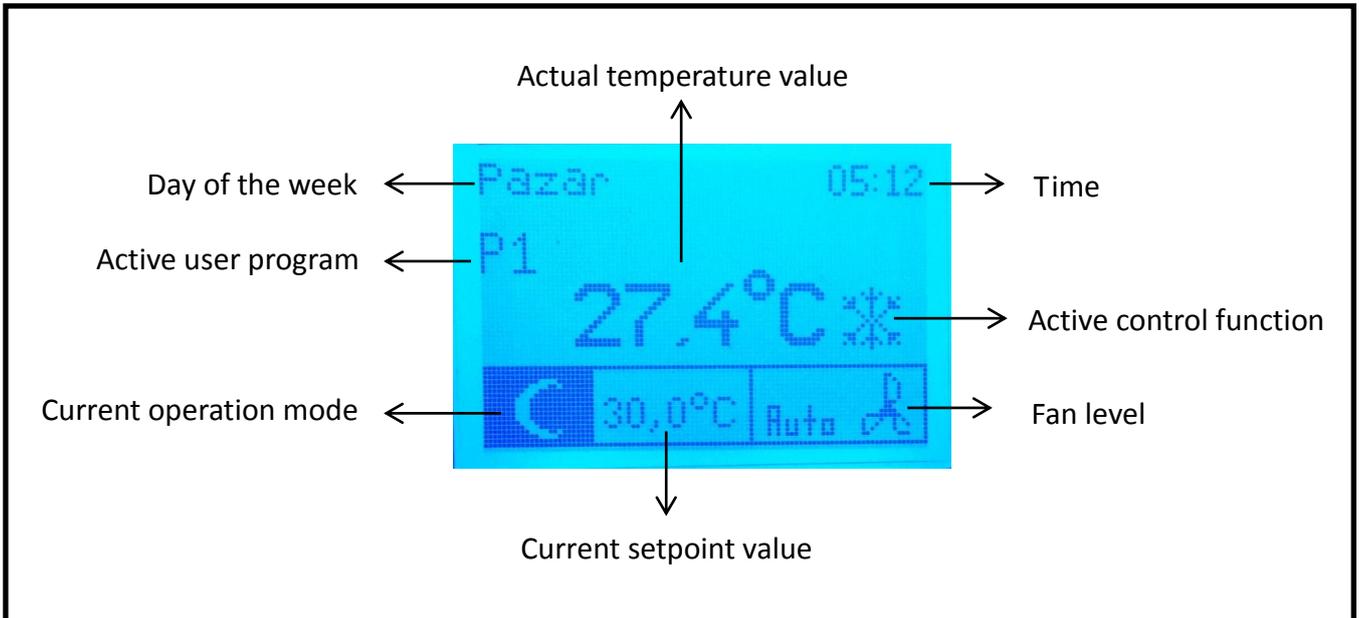
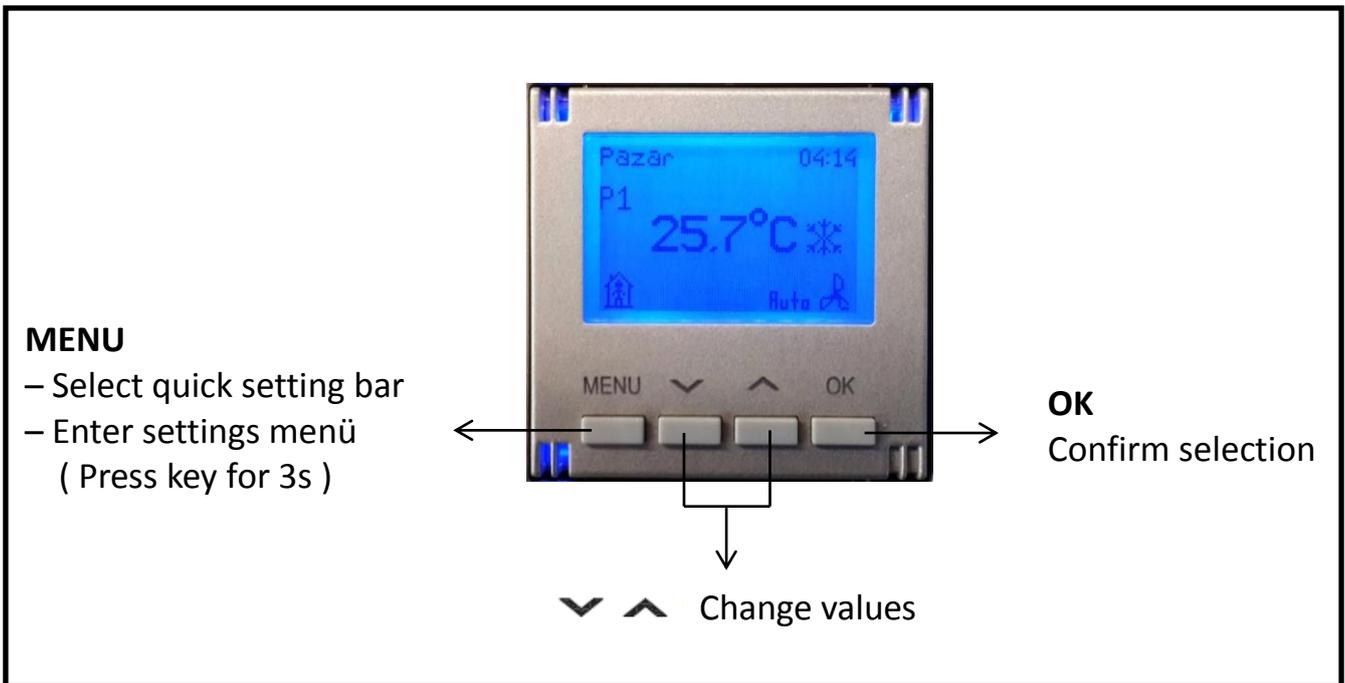
Continued..

Designation	Values	Description
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Designation	Values	Description
<i>Fan level object type</i>	<p>1-Byte object, percentage value 0-100</p> <p><i>1-Byte object, counting value 0-3</i></p> <p><i>1-Bit objects</i></p>	<p>The selected fan stage can be sent via a 1-byte object with the continuous value from 0 to 100 %.</p> <p>The selected fan stage can be sent via a 1-byte object as a counter value from 0 to 3.</p> <p>When 1-bit values are selected, a 1-bit communication object is available for every fan stage.</p>
<i>Value for fan level 1</i>	<p><i>Percentage from %0 to %100</i></p> <p>10</p>	<p>Available if “1-Byte object, percentage value 0-100” is selected.</p> <p>Threshold value for the specific stage.</p>
<i>Value for fan level 2</i>	<p><i>Percentage from %0 to %100</i></p> <p>60</p>	<p>Available if “1-Byte object, percentage value 0-100” is selected.</p> <p>Threshold value for the specific stage.</p>
<i>Value for fan level 3</i>	<p><i>Percentage from %0 to %100</i></p> <p>100</p>	<p>Available if “1-Byte object, percentage value 0-100” is selected.</p> <p>Threshold value for the specific stage.</p>
<i>Switchover fan auto and manual mode</i>	<p>Via object "Fan mode auto/manual", auto is 0</p> <p><i>Via object "Fan mode auto/manual", auto is 1</i></p>	<p><i>Effect of fan mode object to adapt to the used fan coil actuator.</i></p>

4 User Interface

4.1 Keys and Screen



4.2 Change operation mode

- Press MENU to select current operation mode.
- Press \downarrow \uparrow to set the desired operation

4.3 Change current setpoint value



- Press MENU (two times) to select current setpoint value.
- Press \downarrow \uparrow to set the desired setpoint value.
- Press OK to confirm.

*You can instantly change the setpoint value via \downarrow \uparrow buttons.

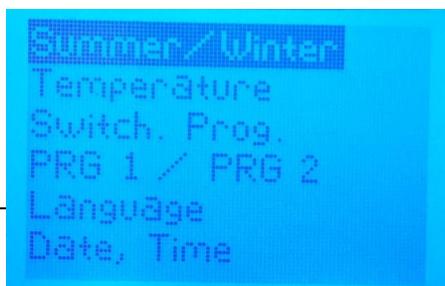
4.4 Change fan level



- Press MENU (three times) to select fan level.
- Press \downarrow \uparrow to set the desired fan level.
- Press OK to confirm.

*You can easily select fan level via OK button.

4.5 Settings Menu



- Press MENU for 3 seconds to enter settings menu
- Press \downarrow \uparrow to select desired line.
- Press OK to enter.
- Press MENU to go back.

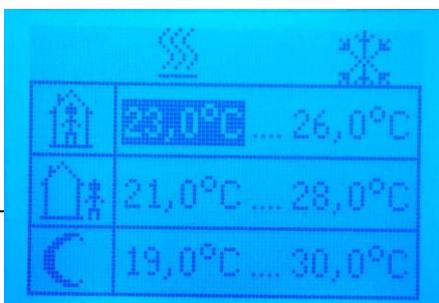
4.5.1 Summer / Winter

This line is available only if “**Via object**” is selected for parameter “**Switchover between heating and cooling**”.



Select control function manually to Summer (cooling) or Winter (heating)

4.5.2 Temperature



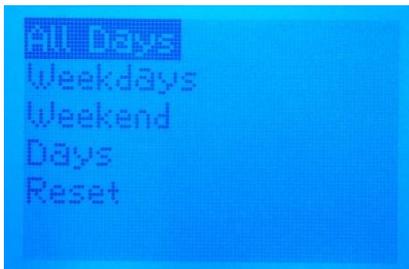
Adjust setpoint values for different operation modes and different control functions.

- Press OK to move between setpoints.
- Each value can be set separately. Maximum and minimum limits are applied automatically.

4.5.3 Switching Program



Select program 1 or program 2 for configuration.



All Days → This settings will effect all day. Every day same switching program will be executed.

Weekdays → This settings will effect only weekdays.

Weekend → This settings will effect only Saturday and Sunday.

Days → Every day from Monday to Sunday can be set individually.

Reset → Clear this program to preset values. See appendix for preset program values.



Set user defined switching program.

- There are 4 time periods.
- Start and end times of all periods can be set.
- Operation modes for those time period can be set.

Ex: Lets see settingd on the left side picture.

4.5.4 Program 1 / Program 2



Select active switching program.

- PRG 1 → Program 1 is active
- PRG 2 → Program 2 is active
- NO PRG → Switching programs are disabled.

4.5.5 Language



Select user language.

- Press \downarrow \uparrow to select desired language.
- Press OK to select.

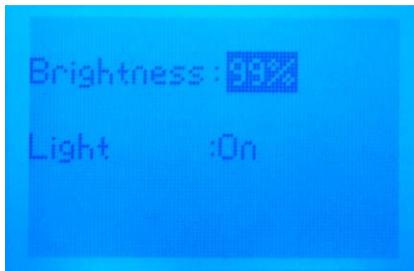
4.5.6 Date, Time



Adjust date and time.

- If some field are “- -“ it means date is not set by user . Please set date.
- Date and time can be set manually from thermostat or can be received from the bus.
- Thermostat keeps date and time up to 10 hours when power off. After this time period date and time will be reset. Please check setting after long power off periods.

4.5.7 Display



Adjust brightness level of the display and light on/off option.

- Light :** On → Light is always on
 Off → Light is always on
 Key → Light is on when one of key is pressed.

5 Startup Behaviour

After restart* the device some objects are sent to bus automatically. See below table for more information.

Object number	Object name	Description
6	<i>Current Setpoint</i>	Depending to current operation mode sends set point value.
7	<i>Heating Switching Control Value</i>	If ETS parameter “ <i>Control function</i> ” is selected as “ <i>Heating and Cooling</i> ” both heating and cooling objects will be available. Otherwise only heating or
	<i>Heating Continuous Control Value</i>	

Object number	Object name	Description
8	<i>Cooling Switching Control Value</i>	cooling objects will be available.
	<i>Cooling Continuous Control Value</i>	These objects send value different from At start up thermostat runs controller functions ; <ul style="list-style-type: none"> ■ If controller decided to heat the room then cooling objects are set to 0. ■ If controller decided to cool the room then heating objects are set to 0 ■ If no heating or cooling is required then both heating and cooling objects are set to 0.
19	<i>Heating PWM Control Value</i>	
20	<i>Cooling PWM Control Value</i>	
9	<i>Report heating or cooling mode</i>	This object reports if thermostat is in heating mode or cooling mode. This is not related with controller outputs.
11	<i>Fan mode (manual/auto)</i>	Sends fan auto mode data to bus.
15	<i>Time query</i>	Sends 1 bus.
17	<i>Date query</i>	Sends 1 bus.

* Restart means soft reset after ETS parameters are loaded or bus connector of the device is plugged(power up the device).