

RDG400KN – the room thermostat with KNX communications that allows you to set the ideal room temperature you want. The thermostat provides Comfort, Economy and Protection mode. In addition it can operate in Auto timer mode according to a schedule via KNX bus.

You can either rely on the factory settings or make adjustments that suit your individual needs.

1 Main display	2 Operating mode
<b>24.5</b> Room temperature	Heating mode
<b>12.5</b> Outdoor temperature	<b>AUX</b> Electric heater active
<b>°C</b> Room temperature in degrees Celsius	Cooling mode
<b>°F</b> Room temperature in degrees Fahrenheit	Comfort mode
Button lock active	Economy mode
Fault indicator *	Auto timer mode
Condensation in the room *	Protection mode: Protection against frost
Timer function active	Indicator for mode selection
<b>1234567</b> Weekday 1 = Monday 7 = Sunday	Fan is active **
<b>12:25</b> Additional user info, e.g. current time of day	
Escape (Cancel)	
Confirm (OK)	
<b>A</b> Operating mode button	
<b>B</b> Protection / OK	
<b>C</b> Rotary knob	
* Needs to be configured by your HVAC installer	
** Only supported with Synco 700 primary controller	

#### Changing the room temperature



- Turn the rotary knob clockwise (+) to increase, or counterclockwise (-) to decrease the current room temperature setpoint. The thermostat changes to Comfort .

The setting range is from 5...40 °C; it can be limited by parameters P09 and P10. (for parameter settings, see reverse side).

#### Changing the operating mode of the thermostat

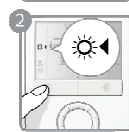
Press the operating mode button repeatedly until the symbol points to the operating mode you desire.



##### 1. Protection mode

- In protection mode, the plant stops operating. However, if the room temperature falls below 8 °C, heating is switched on to protect the room against frost.

The setpoints for Protection mode can be changed by your HVAC installer if desired:  
Changes made by installer: Frost protection: \_\_\_\_\_ °C Heat protection: \_\_\_\_\_ °C



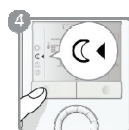
##### 2. Comfort mode

- In Comfort mode, the thermostat maintains the room temperature on the setpoint which can be adjusted with the rotary knob



##### 3. Auto Timer mode

- In Auto Timer mode, the thermostat automatically switches over between Comfort and Economy mode according to the schedule via KNX bus. If no schedule via KNX is available, then Auto Timer is replaced by Comfort.



##### 4. Economy mode

- In Economy mode, the thermostat maintains the room temperature at a lower or higher setpoint, thus saving energy and money.
- The thermostat can be set to Economy mode *either* by pressing the operating mode button if enabled (P02 = 2), or via an external signal (switch or KNX bus command) such as window switch, key card or presence detector.
- The Economy setpoints are factory-set to 15 °C for heating and 30 °C for cooling. They can be adjusted via parameters P11 and P12 (for parameter settings, see reverse side).

**Important:** These setpoints can be set to OFF; which means that the thermostat is not active., i.e. no protective heating or cooling function. **Risk of frost!**

#### Changing from heating to cooling mode Not supported with all configurations



- The changeover from heating to cooling (or vice versa) is made
  - either *automatically* by a changeover sensor, or a changeover switch, or a remote changeover switch via KNX command
  - or manually by pressing the operating mode button.

If the thermostat is configured for "heating only" or "Cooling only", changeover is not available (see parameter P01)



- To select cooling or heating manually (P01=2), press the operating mode button until the symbol points to the mode you desire.
- With automatic changeover or continuous heating / cooling, symbols / indicate that the system currently heats or cools.
- With manual changeover, symbols / indicate that the system currently operates in heating or cooling mode. Symbols / indicate that the system currently heats or cools.

#### Fan display

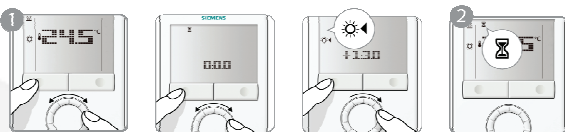


The symbol informs you that the primary fan is active.

Note: Only supported with Synco 700 primary controller.

### Timer to extended presence or absence

The Comfort and Economy modes can be temporarily extended by 0.5 to 9.5 hours using the timer.



- To set the timer, press and hold the operating mode button. While holding the button, turn the rotary knob clockwise or counterclockwise as required.
    - Turn the rotary knob clockwise to extend Comfort mode.  
Display: ☀ 0...+9:30
    - Turn the rotary knob counterclockwise to extend Economy mode.  
Display: ☾ 0...-9:30
  - Release the operating mode button and the mode is temporarily changed, indicated by ⌚ symbol.
- After the temporary timer has elapsed, the thermostat will resume operation in the operating mode according to schedule via bus (if available). Without schedule:
    - when extended Comfort mode ends → new operating mode = Economy
    - when extended Economy mode ends → new operating mode = Comfort
  - If Economy mode cannot be selected via the operating mode button (P02 ≠ 2), Protection mode will be used for extended absence instead.
  - The temporary timer function is aborted whenever a new setting is made.

### Temporary timer to extend the Comfort mode

When the operating mode is Economy (commanded by schedule via KNX or by an external signal. e.g. keycard), it can be set back to Comfort temporarily by pressing the operating mode button. The ⌚ symbol will appear.

Pressing the operating mode button again will stop the timer.

This function is only available when parameter P02 = 1. Duration: \* P68 = 0...360 min, factory setting = 0 min. \* Needs to be configured by your HVAC installer.

### Reminder clean filter and display of external faults

AL1 \* These fault messages tell you an external fault has occurred \*:  
AL3 \* AL1 :  AL3 :

\* Needs to be configured by your HVAC installer

### Button lock

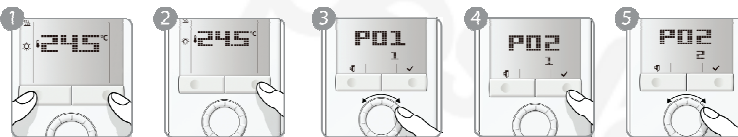


- If the button lock function is enabled (parameter P14 = 2), then pressing the right button for 3 seconds will lock or unlock the buttons respectively. Locked buttons are indicated with the key symbol
- If "Auto lock" is configured (P14 = 1), the thermostat will automatically lock the buttons 10 seconds after the last adjustment.

### Commissioning (by qualified HVAC installer)

To adapt the thermostat to your system and optimize the control performance, a number of control parameters can be adjusted. This can be done during operation, either via the buttons on the thermostat or via a commissioning tool.

### Control parameters



If you wish to change control parameters, proceed as follows:

- Press left and right buttons simultaneously for at least 3 seconds.
- Release them and, within 2 seconds, press the right button again for 3 seconds. The display will show P01.
- Select the required parameter by turning the rotary knob.
- Press button ✓ (OK). The current value of the selected parameter starts blinking and can be changed by turning the rotary knob.
- Press button ✓ (OK) to confirm the adjusted value, or ⏏ (Esc) to cancel the change.

If you wish to adjust additional parameters, repeat steps 3 through 5, or press ⏏ (Esc) to leave the parameter setting mode.

### Parameter list

No.	Description	Default value	Setting range	Adj.
P01	Control sequence ***	1 = cooling only	0 = Heating only 1 = Cooling only 2 = H/C changeover, manual 3 = H/C changeover, automatic	
P02	Mode selection via operating mode button	1	1 = Auto** / Comfort / Protection 2 = Auto** / Comfort / Economy / Protection	
P04	Selection of °C or °F	0 = °C	0 = °C 1 = °F	
P05	Sensor calibration	0.0 K	-3...+3 °C	
P06	Standard temperature display	0 = Room temp.	0 = Room temperature 1 = Setpoint	
P07	Additional user information	0 = No display	0 = No display 1 = Room Temperature in °C / °F 2 = Outside temperature (via bus) 3 = Time of day (12h, via bus) 4 = Time of day (24h, via bus)	
P08	Comfort basic setpoint	21 °C	5 ... 40 °C	
P09	Minimum setpoint limitation in Comfort mode	5 °C	5 ... 40 °C	
P10	Maximum setpoint limitation in Comfort mode	35 °C	5 ... 40 °C	
P11	Setpoint for heating in Economy mode (WheatEconomy)	15 °C	OFF, 5 °C...WcoolEconomy	
P12	Setpoint for cooling in Economy mode (WcoolEconomy)	30 °C	OFF, WheatEconomy...40 °C	
P14	Button lock	0 = Disabled	0 = Disabled 1 = Automatic 2 = Manual	

\*\* When no time schedule via KNX exists, then Auto is equal to Comfort.

\*\*\* Not supported with all configurations.

All temperature settings can be made in increments of 0.5 °C.

Please record all changes you make!