SIEMENS

en Operating Instructions

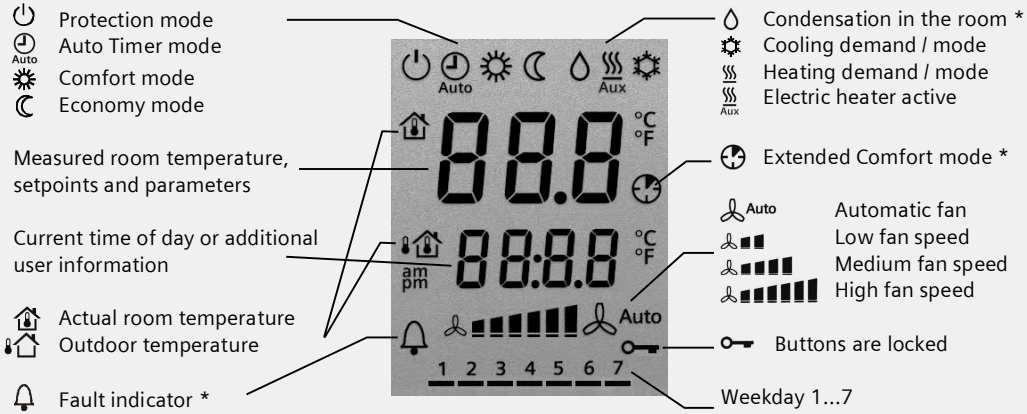
RDF600KN, RDF600KN/VB
RDF600KN/S

RDF600KN, RDF600KN/VB, RDF600KN/S – the room thermostat with KNX communications allows you to set the ideal room temperature.
The thermostat provides Comfort, Economy, and Protection mode and can operate in Auto timer mode using a time schedule provided via bus.

The fan operates either in Auto mode or at a speed selected in Manual mode.

You can either take advantage of the thermostat's factory settings or adjust it as needed.

Display



Operation and settings

Operating mode button

Auto → ☼ ** → ☾ ** → ⏻

Notes:

- *The thermostat goes back to Auto Timer mode if a time schedule via bus changes the operating mode.*
- *User operations are ignored if a time schedule via bus sets the operating mode to protection. When you press a button, "OFF" flashes on the LCD.*
- *Auto mode is not available if there is no time schedule via bus.*

Fan mode button
- Automatic fan (Auto)
- Manual fan

4 buttons for switching groups
(control of KNX actuators, RDF600KN/S only) *
- Switch lights etc.
- Dim lights
- Open / close blinds
- Scenes (recall / save)

* *Needs to be configured by your HVAC installer*
** *Needs to be enabled via parameter P02*

Change room temperature

+ / –	Press + or – to increase or decrease the current room temperature setpoint for **Comfort** mode. The thermostat changes to Comfort ☼.
☼	The setting range is 5...40 °C, unless limited by parameters P09 and P10.

Adjust fan speed / fan mode

	Press the button until you reach the desired fan mode.
Auto	In **Auto mode**, the thermostat automatically selects the fan speed based on set-point and actual room temperature. The fan is switched off (factory setting) after the room temperature reaches the setpoint.
	In **manual mode**, the fan always runs at the speed that you select:
	Low fan speed
	Medium fan speed
	High fan speed
	Single-speed fan: You can change the mode between Auto and .

Change thermostat operating mode

	Press operating mode button to change the operating mode display.
⏻	In protection mode, the plant stops operating. However, if the room temperature drops below 8 °C, heating is switched on to protect the room against frost. Your HVAC installer can change the frost protection limit and set a heat protection limit as needed: *Changes made by installer:* Frost protection: ..... °C; Heat protection: ..... °C. Via window contact (switch or KNX bus command), the thermostat can be set to Protection mode.
☼	In Comfort mode, the thermostat maintains the room temperature on the setpoint which can be readjusted using the + and – buttons. Via an external signal (switch or KNX bus command) such as keycard / presence detector, the thermostat can be set to Comfort mode.
☾	In Economy mode, the room temperature is maintained at a lower or higher setpoint, thus saving energy and money. Adjust parameters P11 and P12 to change the preselected setpoints. The thermostat can be set to Economy mode *either* by pressing the operating mode button if enabled (P02 = 2).
Auto	In Auto timer mode, the thermostat automatically switches between Comfort and Economy mode according to the time schedule via KNX bus.

Change from heating to cooling mode

/	Changeover between cooling and heating is either *automatic* using a heating / cooling changeover sensor or a remote changeover switch or via instruction from the central management station via KNX bus, or *manual* by pressing operating mode button . No changeover is possible if the thermostat is configured for *cooling only* or *heating only*, (see parameter P01).
	Display for automatic changeover or heating only / cooling only:
	Heating valve is open
	Cooling valve is open
	Display for manual changeover:
	Thermostat is in heating mode
	Thermostat is in cooling mode

Temporary timer to extend the Comfort mode

When Economy mode is active, press operating mode button to temporarily return to Comfort mode. symbol appears. Press operating mode button again to stop the timer.
You can only extend Comfort mode if parameter P02 = 1.
Duration * : P68 = 0...360 min, factory setting = 0 min.

Operate switching groups

Use buttons I, II, III and IV to operate KNX actuators *.
The following functions are available:

- **Switching**: Toggle on/off with 1 button or on/off with 2 buttons (I + II or III+IV). "ON" or "OFF" is displayed.
- **Dim lights** with 2 buttons (I+II or III+IV):
  On/off with a short pulse (<0.5 s); "ON" or "OFF" is displayed.
  Brighter/darker with a long pulse (>1 s); "dI" is displayed.
- **Operate blinds** with 2 buttons (I+II or III+IV):
  A long pulse (>1 s) starts the up/down motor; "UP" or "down" is displayed.
  A short pulse (<0.5 s) stops the motor or slightly adjusts the position of blinds; "ON" or "OFF" is displayed.
- **Scene I, II, III, or IV**: A scene can be used to recall certain states of all actuators involved, as well as to save new states as needed. E.g. different dimmed lights and blinds positions you consider adequate for certain events / times.
  A short pulse (<0.5 s) starts the scene. "CALL" is displayed.
  A long pulse (>3 s) saves the actual position of all actuators involved as adjusted previously; "SAVE" is displayed.

Button lock

Press operating mode button for 3 seconds to lock or unlock the buttons if manual button lock is configured (parameter P14 = 2).
The thermostat automatically locks the buttons 20 seconds after the last adjustment if "Auto lock" is configured (P14 = 1).
The key symbol indicates locked buttons.

Reminder to clean filters and for external faults

FIL * This message reminds you to clean your HVAC equipment filters.
It is displayed after ..... "fan operating hours" and disappears when the thermostat is set to Protection ().

AL1 * / **AL2 *** These messages inform you on external faults *:
AL1 : ..... **AL2 :** .....

Note: Economy mode

The Economy setpoints are factory-set to 15 °C for heating and 30 °C for cooling.
Use parameters P11 and P12 to adjust the values.
Important: You can set these setpoints to **OFF**; the thermostat then is inactive, i.e. no protective heating or cooling function.
Risk of frost!

Commissioning

You can adjust a number of different control parameters to adapt the thermostat to your system and optimize control performance. You can do this during operation either via the buttons on the thermostat or using a commissioning tool.

Control sequence

The thermostat can be used in systems either for *heating only* or *cooling only*, *manually selection of heating or cooling*, or *automatic heating / cooling changeover*. Depending on the selected application, the relevant modes are available and can be adjusted by commissioning parameter P01 if needed.
The factory setting for 2-pipe application is "C*ooling only*", and for 4 pipe application "Heating and Cooling"

** Needs to be configured by your HVAC installer*

Recalibrating the sensor

If the room temperature displayed by the thermostat does not agree with the temperature effectively measured (after min 1 hour of operation), the temperature sensor can be recalibrated. With parameter P05 the temperature can be adjusted by + or – 0.5 °C up to a maximum of + / - 3 °C.

Control parameters

Proceed as follows to change the most important control parameters:
(Your HVAC installer can set additional parameters)

+ / –

1. Press the **–** and **+** buttons simultaneously at least 4 seconds.
   Release, and within 2 seconds, press **+** again until "P01" is displayed.
2. Repeatedly press the **+** or **–** button to select the required parameter.

3. Press **+** and **–** simultaneously. The current value of the selected parameter begins to flash, allowing you to change the value by repeatedly pressing **+** or **–**.
4. The next parameter is displayed when you press **+** and **–** again simultaneously.
5. Repeat steps 2 to 4 to display and change additional parameters,.
6. Press **+** or **–** until "End" is displayed, and then press **+** and **–** simultaneously to save the change and exit parameter entry mode.

15 minutes after the last display or setting, all changes are saved and the thermostat leaves parameter setting mode.

Para-meter	Description	Factory setting	Setting range	Adj
P01	Control sequence	*2-pipe*: [0...3] 1 (Cooling only) *4-pipe:* [2...4] 4 (Heating&Cooling)	0 = Heating only 1 = Cooling only 2 = Manual H or C 3 = Auto Changeover 4 = Heating & cooling	
P02	Mode selection by user via operating mode button	1 (Auto **, Protection)	1 = Auto **, Protection 2 = Auto **, Comfort, Economy, Protection	
P04	Selection of °C or °F	0 (°C)	0 = °C 1 = °F	
P05	Sensor calibration	0.0 °C	– 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 = Temp. 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 (Wmin$_{Comf}$)	5 °C	5 ... 40 °C	
P10	Maximum setpoint limitation in Comfort (Wmax$_{Comf}$)	35 °C	5 ... 40 °C	
P11	Setpoint of heating in Economy (Wheat$_{Eco}$)	15 °C	OFF, 5 °C...Wcool$_{Eco}$	
P12	Setpoint of cooling in Economy (Wcool$_{Eco}$)	30 °C	OFF, Wheat$_{Eco}$...40°C	
P13 ***	Electric heater in cooling mode	ON	OFF = disabled ON = enabled	
P14	Button lock (Press operating mode button for 3 seconds to lock or unlock the buttons)	0 (Disabled)	0 = Disabled 1 = Auto lock 2 = Manual lock	
P15	Fan control deadzone in Comfort	0 (fan OFF)	0:= fan OFF 1:= fan speed 1 in H or C mode 2:= fan speed 1 in C mode only	

** Without time schedule via KNX, Auto is equal to Comfort.
*** Parameter P13 is only displayed for application "2-pipe with el heater".
All temperature settings in increments of 0.5 °C.
The control parameters displayed depend on the DIP switch settings made

Please record all changes you make!