



## Ruimteregelaar RCX

### Function

The controller mode function enables the controller to support control of various room HVAC systems, that is, different combinations of heating, cooling, and variable air volume (VAV) devices that are part of a room.

In a room, the Regio RCX controller can measure and detect the following, depending on model:

- ✓ Temperature
- ✓ CO<sub>2</sub> level
- ✓ Relative humidity level
- ✓ Presence of condensation
- ✓ Motion of a user
- ✓ Air quality (VOC)
- ✓ If a window is open by the help of external sensors

In a room, with the help of an HVAC system, the Regio RCX controller can control, for example:

- ✓ Temperature by activating heating or cooling
- ✓ If a room should be fully automatically controlled, or set to a manual mode
- ✓ Fan speed
- ✓ The level of fresh airflow

### Models with a display

The user interface consists of three touch sensitive buttons, and a display made up of a matrix of LEDs, in a plastic casing where the display can be seen through the plastic material, and the buttons can be pressed by touching the icons printed on the casing.

If the room controller has not been interacted with for a while, the display can be configured to dim down in intensity, or completely shut off depending on what settings the administrator have made. By dimming or shutting off the display during inactive use, the room controller blends in with the room and does not disturb the user. The dimmed mode is preferable for e.g. hotels, where guests sleep in the room where the room controller is mounted, or in an office, where employees do not want to be distracted by a bright display. It is up to the administrator and the installer of the room controller to configure when the product should be dimmed or lit.

The Regio RCX controller user interface is shown in Fig. 1 Regio RCX controller model with a display.

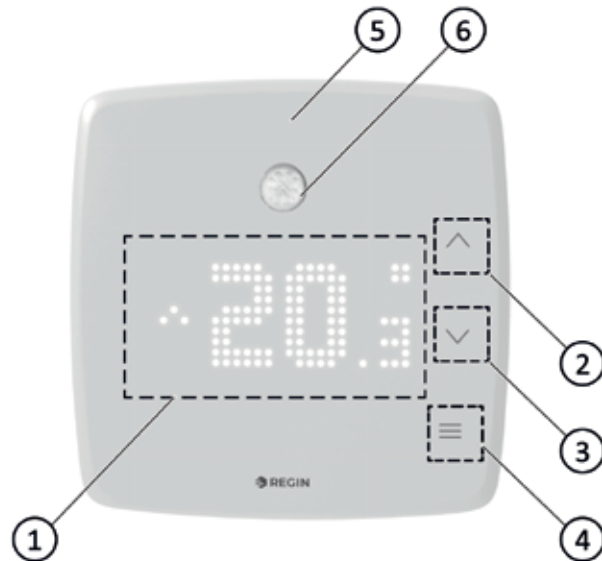


Fig. 1 Regio RCX controller model with a display

- |                     |                                   |
|---------------------|-----------------------------------|
| ① LED matrix        | ④ Menu button                     |
| ② Up arrow button   | ⑤ RGB LED light                   |
| ③ Down arrow button | ⑥ PIR sensor (on selected models) |

Table 1 describes the buttons and LEDs that are available on Regio RCX controllers with a display.

Table 1 Button and LED descriptions for Regio RCX controllers with a display.

Controllers with a display	
Nr	Description
1	LED matrix with the current mode or value displayed.
2	Down arrow button, used for toggling values downwards.
3	Up arrow button, used for toggling values upwards.
4	Menu button, used for navigation in menu.

### Models without a display

For controllers without display, all configurations are made via the Regio:GO app or Application tool.

### Communication

The controllers can be connected to a central SCADA-system via RS485 (EXoline or Modbus, or BACnet) and configured for a particular application using the configuration tool Application tool.

Configuration is also supported by communication via Bluetooth®, and the Regio:GO app.


Arrigo supports Regio RCX with easy-to-use templates.

Application tool can be downloaded free of charge from Regio's homepage [www.regincontrols.com](http://www.regincontrols.com).



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### Technical data

Supply voltage	24 V AC (50 - 60 Hz) or DC (tolerance: 18...28 VAC, 20..36VDC)
Display	25 x 11 pixels
Power consumption	2.5 VA
Ambient temperature	0...50 °C
Ambient humidity	Max. 90 % RH
Storage temperature	-20...+70 °C
Terminal blocks	Pluggable screw terminal, for cable cross-section ≤ 2.1 mm <sup>2</sup>
Protection class	IP20
Material casing	Polycarbonate (PC)
Colour	Cover: RAL9003 (signal white) Wall mount: RAL9003 (signal white)
Modbus RTU	8 bits, 1 or 2 stop bits. Odd, even or no parity.
Communication speed	9600, 19200, 38400, or 76800 bps (all protocols)
Measuring range, temperature	0...50 °C
Temperature accuracy	±0.5 °C at 15...30 °C <sup>1</sup>
Humidity sensor accuracy	Typical: 2 % RH (10-90 %), 3 % RH (<10 or >90), Max: 3.5 % RH (10-90), 5 % RH (<10 or >90)
CO <sub>2</sub> sensor	0...2000 ppm Update frequency: 5 s
CO <sub>2</sub> sensor accuracy	±50 ppm + 5 % (measured value, MV) @400-2000 ppm
PIR sensor, detection range	Detection angle 110°, distance 5 m at 8 °C temp. difference = up to 7 m at 4 °C temp. difference = up to 5 m (Target conditions: movement 1.9 m/s, object size approx. 700x250 mm)
	 <p><b>Note!</b> Depending on the temperature difference between the target and the surroundings, detection range will change.</p>
VOC sensor	AQI; range 0-500 (Air Quality Index)
Mounting	Room/Wall
Weight	115 g
Dimensions	with Low wall mount assembly (RCX-BL): 94.6 x 94.6 x 21 mm with Medium wall mount assembly (RCX-BM): 94.6 x 94.6 x 31 mm

<sup>1</sup> 0.5 K is valid if current on UO1 and UO2 is lower than 1.5 A, for currents between 1.5 A and 2 A the accuracy is 0.6 K.