

Regio RUX series

Room units



The Regio RUX series is a range of external room units intended for temperature and air handling control via a controller running an application. They can also be used together with Regin's system controllers. The RUX units can be connected to several different products and could, for example, be used to control an air handling unit running a ventilation application.

- ✓ A range of units with different features
- ✓ Elegant and slim design, which provides the ability to seamlessly install in design-critical environments
- ✓ Display showing relevant information and which enables visibility on a distance. Easy to keep clean
- ✓ Built-in sensors, which measure all relevant data in the same casing. Such as, temperature, humidity, CO₂, VOC
- ✓ Easy configuration, with wireless communication using the Regin:GO app
- ✓ Removable terminal, which simplifies troubleshooting
- ✓ Backplate with terminals allows installation without electronics in an unclean environment

Application

The RUX room units have a discrete design and are easy to use with an intuitive graphical LED matrix front and stylized touch buttons. They are suitable in buildings where you want optimal comfort and low energy

consumption, for example offices, schools, shopping centres, airports, hotels and hospitals.

The Regio RUX series is well suited as a room unit for ceiling mounted controllers. They can be used together with a Regin system controller, where the setup must be

done with Regin's tool for controllers. Such as, an air handling unit running a ventilation application. The RUX room units can be used to change fan speed, set temperature, extended running, etc. at a distance of up to 1200 m. Choose from a large selection of room units that fit your specific needs.

Function

Depending on which features one prefers in the unit, there is a number of different options. Such as temperature sensor, humidity sensor, CO₂ sensor, air quality sensor (VOC), and motion detector sensor (PIR). All models have a built-in temperature sensor, together with the intuitive graphical LED matrix front and stylized touch buttons.

The RUX can easily be integrated with Regio Eedo and Regio Ardo products (version 2.x), and the Corrigo and Exigo product family. The RUX room units have support for Regio Ardo/Eedo functions communicating with room units.

The RUX also works with EXOcompact and EXOclever, using built in template.

In a room, the RUX room unit can measure and detect the following, depending on model:

- ✓ Temperature
- ✓ CO₂ level
- ✓ Relative humidity level
- ✓ Air quality (VOC)
- ✓ Motion of a user

In a room, with the help of a controller, the RUX room unit 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

All features are specified under the section *Models*.

Display and buttons

The user interface features a dynamic LED matrix (25 x 11 pixels), 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 unit 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 unit 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 unit 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 unit to configure when the product should be dimmed or lit.

The LED interface can show the following values:

- ✓ adjusted setpoint (and/or offset of setpoint)
- ✓ current values for sensors
- ✓ adjusted Fan speed (off/low/med/high/Auto)

The LED display can also show free text strings for miscellaneous purposes, with adjustable horizontal scroll where the scroll speed is adjustable. Acknowledge possibility to clear text by pressing the **[Menu]** button is also available.

The RUX room unit user interface is shown in *Fig. 1 RUX room unit model, with display, sensor and buttons*.

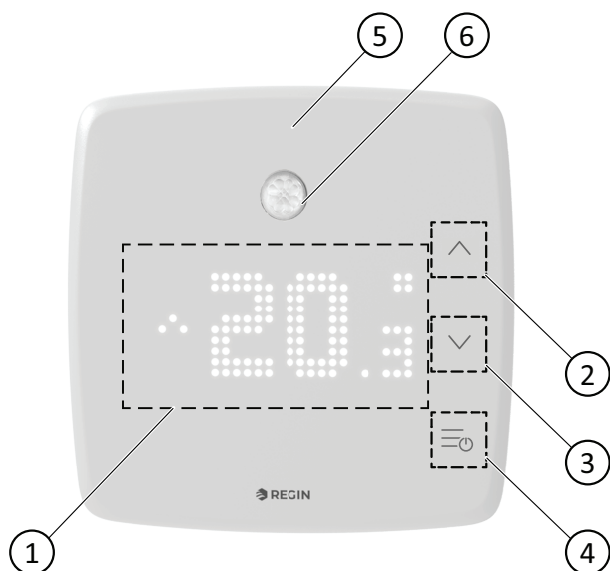


Fig. 1 RUX room unit model, with display, sensor and buttons

- | | |
|---------------------|-----------------------------------|
| 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 RUX room units.

Table 1 Button and LED descriptions for RUX room units.

Room units	
№	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. Acknowledge possibility to clear free text.

Communication - Bluetooth®

The room units 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 2.

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

Application tool 2 can be downloaded free of charge from Regin's homepage www.regincontrols.com. For more information about the Application tool 2, contact Regin.

The Regin:GO app can be downloaded from *App store* (iPhone and iPad) or *Google play* (Android).

Installation

The modular design with a separate backplate for wiring makes the whole RUX series easy to install and commission. The room units are mounted directly on the wall or in a appliance box.

The RUX room unit consists of the main part (article number RUX-T[H,C,V,P]) and the backplate RCX-B[L,M]. For complete function both a backplate and a main part is needed. The backplate is selected from the mounting. The RCX-BM is selected when mounted directly on the wall, and the RCX-B[L,M] are selected when mounted over an appliance box, meaning less space for cables needed.

The room units consist of two parts:

- ✓ Front and PCB assembly
- ✓ Backplate assembly (including terminal)




Note! The backplate assemblies are sold separately.

- ✓ Low (for mounting over appliance box), RCX-BL
- ✓ Mid (for on-wall mounting), RCX-BM

For detailed installation instructions, see the RUX-.... Instruction and the Regio RUX series manual, to be found at www.regincontrols.com.

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 ²
Protection class	IP30
Measuring range, temperature	0...50 °C
Temperature accuracy	±0.5 °C at 15...30 °C ¹
Humidity sensor accuracy	Typical: 2 % RH (10...90 %), 3 % RH (<10 or >90), Max: 3.5 % RH (10...90), 5 % RH (<10 or >90)
CO₂ sensor	0...2000 ppm Update frequency: 5 s
CO₂ sensor accuracy	±50 ppm + 5 % (measured value, MV) @400...2000 ppm
PIR sensor, detection range	<p>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> <div>  <p>Note! Depending on the temperature difference between the target and the surroundings, detection range will change.</p> </div>
VOC sensor	AQI; range 0...500 (Air Quality Index)
Mounting	Room/Wall
Weight	115 g
Dimensions	Low (RCX-BL) backplate assembly: 94.6 x 94.6 x 21 mm Medium (RCX-BM) backplate assembly: 94.6 x 94.6 x 31 mm

¹ 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.

Communication

RS485	For EXOline (with automatic detection), Modbus (with automatic detection), or BACnet.
Communication cable length, maximum	1200 m, with repeater
Bluetooth® Low Energy	Bluetooth® communication.
Modbus RTU	8 bits, 1 or 2 stop bits. Odd, even or no parity.
Communication speed	9600, 19200, 38400, or 76800 bps (for all protocols)

Conformity

Hereby, Regin declares that the radio equipment type Regio RUX series is in compliance with Directive 2014/53/EU.

Regio RUX series complies with EN IEC 60730-1 as a class A control.

This radio equipment device is approved for use in all countries within the European union.



This product carries the CE-mark. More information is available at www.regincontrols.com.



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Material

Cover	Polycarbonate (PC) (signal white) Acrylonitrile Butadiene Styrene (ABS) (jet black)
PCB Cover	Polycarbonate (PC)
Backplate assembly, incl. terminal	Polycarbonate (PC) (signal white) Acrylonitrile Butadiene Styrene (ABS) (jet black)
Colour, cover	RAL9003 (signal white) or RAL9005 (jet black)
Colour, backplate assembly	RAL9003 (signal white) or RAL9005 (jet black)

Models

Table 2 Room unit models

Article	Communi- cation	Display	Buttons	Tempera- ture sensor	Humidity sensor	CO ₂ sensor	VOC sensor	PIR sensor
RUX-T-D	✓	✓	✓	✓				
RUX-TC-D	✓	✓	✓	✓		✓		
RUX-TH-D	✓	✓	✓	✓	✓			
RUX-THCVP-D	✓	✓	✓	✓	✓	✓	✓	✓
RUX-TC-D- BLACK	✓	✓	✓	✓		✓		
RUX-THCVP-D- BLACK	✓	✓	✓	✓	✓	✓	✓	✓

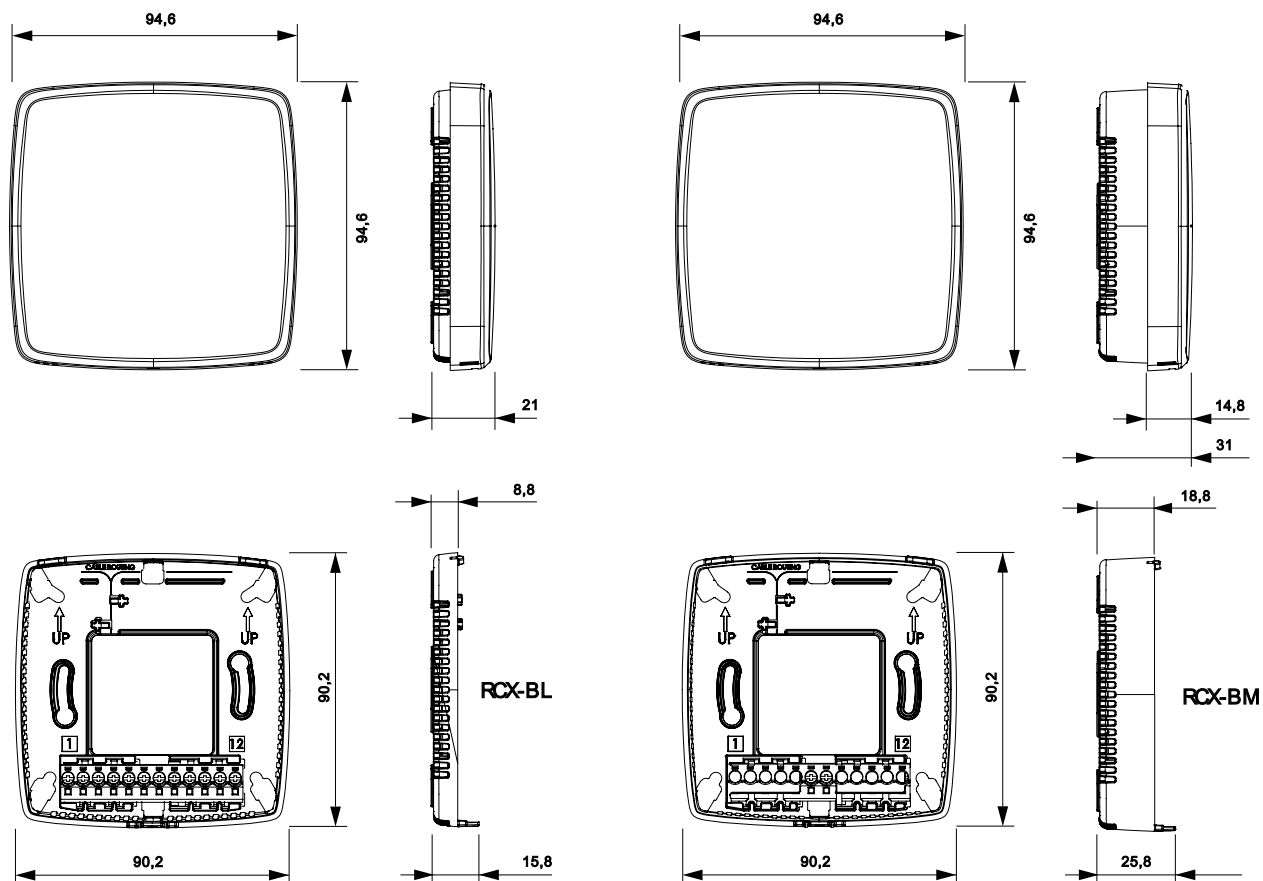
Table 3 Backplate assembly models

Article	Description
RCX-BL	Backplate Low (signal white)
RCX-BM	Backplate Medium (signal white)
RCX-BL-BLACK	Backplate Low (jet black)
RCX-BM-BLACK	Backplate Medium (jet black)



Note! The backplate assemblies are sold separately.

Dimensions



[mm]

Wiring

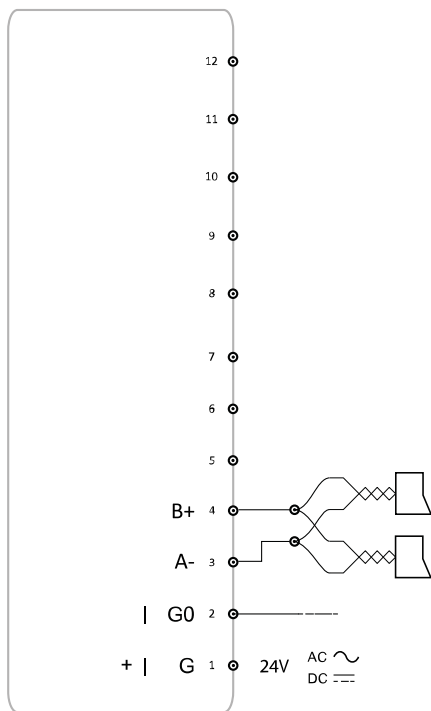


Fig. 2 General wiring example

Documentation

All documentation can be downloaded from www.regincontrols.com.